COUNTY BOROUGH OF BLACKBURN

EDUCATION COMMITTEE

Annual Report

UPON THE

SCHOOL MEDICAL SERVICE

for the year 1926

BY

OSCAR M. HOLDEN
M.D., D.P.H.,
School Medical Officer.

BLACKBURN:
THE "TIMES" PRINTING WORKS, BLACKBURN.

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MEMBERS OF THE EDUCATION COMMITTEE,
December, 1926.

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(Chairman of Education Committee).

†*Alderman Keighley, M.D., J.P.

†*Alderman Watson, J.P.
(Chairman Elementary Education Sub-Committee).

*Alderman Fielding, J.P.

*Councillor Burke.

†* ,, Makin, J.P.

* ,, Hargreaves.

,, Critchley.

†* ,, Hurley.

* ,, Grimshaw (Vice-Chairman).

†* ,, Smethurst.

,, Ormerod, J.P.

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* ,, Moffatt, M.R.C.S.

* ,, Sharples.

* ,, B. Holden.

* ,, E. Coward.

* ,, Stanworth.

†*Rev. J. E. Samuel, M.A.
(Chairman, School Attendance Reference).

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*Rev. T. Singleton.

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†*J. Aspin, Esq.

†*Miss Eccles.

Miss Gardner, M.A.

†*Mrs. H. W. Boddy.

*Rev. Canon John Sinker, R.D.

J. Johnson, Esq., J.P. (Co-opted member of the Elementary Education Sub-Committee).

J. F. CARR, B.Sc., *Director of Education.*

SIR LEWIS BEARD, *Town Clerk.*

*Elementary Education Sub-Committee.

†School Attendance Reference Sub-Committee.

STAFF OF THE SCHOOL MEDICAL SERVICE.

Medical Officer of Health and School Medical Officer:
OSCAR M. HOLDEN, M.D., D.P.H.

Assistant School Medical Officers:
CECIL B. HOGG, M.D. (Aberd.), D.P.H. (Lond.).
ELLA G. F. MACKENZIE, M.A., M.B., Ch.B. (Edin.), D.P.H (Birmingham).

School Dentist:
ELLINA J. B. THOMSON, L.D.S. (Glasgow).

Ophthalmic Surgeon (part time):
J. M. WISHART, M.B., Ch.B., F.R.C.S. (Edin.).

School Nurses:
E. BARTON, A. GARSTANG, MARY E. WORDEN, H. McLOUGHLIN.

Remedial Gymnast:
MARGERY C. RANDALL.

School Clinics.

NAME.	PURPOSE.	WHERE HELD.	TIMES.
Inspection Clinic.	Special Examination of Cases Referred by Teachers, School Attendance Officers and School Nurses.	Health Department, Town Hall.	Wednesdays, 2 p.m.; Saturdays, 9-30 a.m.
Ophthalmic Clinic.	Prescription of Spectacles.	68, Victoria Street.	Mondays, 1-30 p.m. Fridays, 1-30 p.m.
Dental Clinic.	Dental Treatment.	Health Department, Town Hall.	Every week-day (by appointment).
Minor Ailments Clinic.	Treatment of Minor Diseases of Skin, etc.	68, Victoria Street.	Every week-day, at 8-45 a.m.
,,	,,	119, Bolton Road.	Mondays to Fridays at 2-0 p.m.; Saturdays, 9-0 a.m.
Cleansing Station.	Treatment of Scabies and Cleansing of Verminous Cases.	Throstle Street.	Tuesdays & Thursdays (by appointment).
Throat Clinic.	Operative Treatment of Adenoids and Enlarged Tonsils (Out-Patients).	Blackburn & East Lancs. R. Infirmary.	Arranged as required.
,,	,, (In-Patients).	Queen's Pk. Hospital.	Arranged as required.
Remedial Exercises.	Treatment of Deformities.	Health Department. Town Hall.	Every week-day (by appointment).

Public Health Department,

Town Hall,

Blackburn.

March, 1926.

To the Chairman and Members of the Education Committee of the County Borough of Blackburn.

Mr. Chairman, Ladies and Gentlemen,

I have the honour to present herewith my Second Annual Report, being the 23rd of the series, on the Medical Inspection and Treatment of School Children in Blackburn.

The general arrangement of the Report remains unchanged, though one or two new Tables have been added.

No major alterations have been made in the organisation of the department or in the procedure of working. The work shows an increase over 1925 and, notably in the Dental and Orthopædic departments, its dimensions have become too large for the existing staff to handle completely. The acquisition of a portable weighing machine and measuring standard have enabled investigations to be carried out which, if continued from year to year, may prove valuable. The whole of the Mentally and Physically Defective Children groups [Table III., Board of Education] have been thoroughly revised and the records brought up to date. The problem of the education of the high grade mentally defective child and of the physically delicate child is one which merits careful consideration. Operations for Adenoids and Enlarged Tonsils have increased in number, with the result that the year ended with quite a moderate and manageable waiting list. In spite of heavy incidences of infectious diseases at the beginning and the end of the year, the total incidence on the school population shows a decline. The cleanliness of the schools has been, on the whole, satisfactory. Incidents of unsatisfactory conditions have arisen, but they have been remedied after representation to the Director of Education. Some of the schools are kept in a most praiseworthy manner.

I wish to thank the Director of Education (Mr. J. F. Carr) for his unfailing and kindly personal help, and also the members of his staff for their co-operation.

To the Assistant School Medical Officer (Dr. C. B. Hogg) I also tender my thanks. The vast majority of the examinations have been carried out by him; whilst much of the statistical details he has also compiled with the help of Mr. T. Fowler and Mr. Walsh, to both of whom I am indebted. Dr. Briggs and Dr. Wishart, the part-time specialists attached to the department, have always worked in perfect unison with the whole staff and their services have been of great value. The whole staff have, indeed, worked together smoothly and efficiently, and I take this opportunity of thanking them for their loyalty. The clerical staff during the year lost the valuable services of Mr. H. Pemberton; his death was deeply regretted. Mr. H. Walsh was promoted to the vacant position.

In concluding this preface I wish to thank the members of the Education Committee, and in particular the Chairman and members of the School Attendance Reference Sub-Committee, for the encouragement, and consideration they have ever shown to the department and to myself.

I am, Mr. Chairman, Ladies and Gentlemen,

Your obedient servant,

OSCAR M. HOLDEN,

School Medical Officer.

Section 1.

CO-ORDINATION AND SCHOOL HYGIENE.

There is maintained throughout a close co-ordination between the various sections of the Health Service and the School Medical Service. This is possible as the School Medical Officer also holds the post of Medical Officer of Health, whilst the Assistant School Medical Officer is also an Assistant Medical Officer of Health. The lady Assistant Medical Officer devotes a part of her time to school medical inspection, and the Resident Medical Officer at the Corporation Hospital, who is also Tuberculosis Officer, is requisitioned to do certain routine inspections from time to time In this way the whole of the medical staff are conversant, and in actual contact with, the work of the School Medical Service.

The record cards of children who have attended the Maternity and Child Welfare Centres are forwarded on to the School side upon the children reaching the age of five years. Children under five, and who are attending school, remain under the care of the Maternity and Child Welfare Department, and are visited in their homes, if the occasion arises, by the Health Visitors.

A " March Past " is made before the School Medical Inspector in the case of children under five years attending school. In this way obvious defects can be detected and treated.

Structural Work and Decorations carried out in the Elementary Schools.

I am indebted to the Borough Engineer, Mr. A. T. Gooseman, for the following particulars of work carried out at the various schools during the past year :—

The following Schools were re-decorated during the summer holidays :—St. Michael's, Griffin, St. James's C.E., St. Joseph's R.C., St. Paul's.

Bangor Street and Park Road Schools have been painted outside.

The floors at St. James's C.E. School have been re-boarded and a glazed movable partition has been fixed in the senior Department.

The Boys' Playground at the C.E. Central School has been re-asphalted.

At St. Bartholomew's School the playgrounds have been asphalted and electric light installed and the conveniences overhauled.

At Audley Range School the heating of the Main Room of the Infants' Department has been improved by the provision of an additional radiator, and one of the cloakrooms and a portion of the floor of the Senior Department has been re-boarded.

The stonework of some of the gables, etc., at Accrington Road School has been taken down and rebuilt. The verandahs and sloping approaches from the playgrounds to the Schools have been removed and replaced by steps. The flush-pipes and pedestals of the conveniences have been overhauled and the water supply improved.

A new range of urinals and six W.C.'s have been provided at St. Alban's Higher Grade School.

Electric light has been installed at St. Barnabas's School.

A new cloakroom with four lavatory basins has been made at St. Peter's R.C. School, and six W.C.'s for Infants (Girls), and three W.C.'s and urinal accommodation for Infants (Boys). Ten W.C.'s have been provided for Senior Girls, and six W.C.'s and urinal accommodation for the Senior Boys.

The conveniences at Regent Street School have been overhauled.

Additional window ventilation has been provided at Accrington Road Open-Air School.

No. 12, St. Alban's Place, has been converted into a Domestic Subjects Centre.

The conveniences at the whole of the Schools have been whitewashed during the year, and the roofs, gullies, gutters, etc., of the Council Schools have been overhauled.

Sanitary Accommodation in Schools.

A survey of the sanitary accommodation available for scholars attending the Elementary Schools in the Borough was made towards the end of the year. The following Table summarises the conditions found :—

(1)	Pedestal Water Closets flushed with separate cisterns	134
(2)	Pedestal Water Closets flushed by automatic cisterns	265
(3)	Number of Trough Closets, together with the number of seats, flushed automatically	212
(4)	Number of Trough Closets, together with the number of seats, flushed by hand	95
(5)	Number of Urinals with sparge pipes	31
(6)	Number of Urinals without sparge pipes, necessitating hand flushing	49

(7) There were no pail closets.

There are several schools with the urinal spray pipes not in working order; these have been included under the fifth heading, though hand flushing is necessary to prevent a nuisance arising.

It was noticed, during the course of the investigation, that, with one or two exceptions, the seat boards, both in connection with the trough and the pedestal types, did not seem to be scrubbed as frequently as is desirable, and consequently presented a dirty appearance.

The ideal accommodation is pedestal W.C.'s flushed by hand from separate cisterns, and urinals fitted with sparge pipes, flushed automatically. Opinions have been expressed that automatic flushing of W.C.'s is preferable to hand flushing when dealing with elementary school children, especially those of more tender years. Automatic flushing, however, tends to breed carelessness which is reflected in the thoughtless neglect of accommodation at home, leading to choked drains and subsequent nuisances. The proper use of sanitary accommodation should be inculcated in the school child, the due practice of which would lead to fewer complaints of blocked conveniences occurring on private property. In the majority of such complaints investigated by the Sanitary Inspectorial Staff, the tenants have been to blame. Trough closets suffer from this defect also and, additionally, are not infrequently a source of nuisance owing to blockage.

American rules usually reckon 1 seat to 15 girls and 1 to 25 boys. The English regulations prescribe the number of closets to be provided for girls and boys respectively, as follows :—

No. of Children.	30	50	70	100	150	200	300	400
No. of Closets respectively :—								
Boys	1	2	2	3	3	4	5	6
Girls	3	4	5	6	8	10	14	18

In addition, boys' urinals in the proportion of 10ft. per 100. For Secondary schools 1 closet seat for every 25 boys and 1 urinal for each 15. For girls, 1 seat for every 15 up to 100, then 1 for each additional 20.

Special provision is required for infant schools. A common error is that the seats are too high. Supervision should also be kept over tiny children when they visit the conveniences.

COST OF SCHOOL MEDICAL SERVICE.

For the Year 1926.

I am indebted to the Borough Treasurer, Mr. R. G. Pye, for the following particulars :—

Expenditure :	£	s.	d.
Salaries	2890	19	8
Operative Treatment of Tonsils and Adenoids	364	19	0
Printing, Stationery, etc.	123	10	5
Drugs, Materials, and Apparatus	323	10	8
Travelling Expenses	15	9	2
Uniforms, etc.	7	17	9
Rent, Cleaning, etc., of Clinics	316	7	9
Repairs and Upkeep of Premises	1	19	5
Rates and Taxes	84	18	2
National Insurance	9	2	0
Conveyance of Children by Ambulance	7	9	0
Sundries	2	3	2
	4148	6	2
Receipts :			
Services of Staff Health Department	78	15	11
Sale of Spectacles	57	8	3
Operation Fees	13	18	0
Fees—Dental Clinic	19	13	8
Fees—Use of Ambulance	7	0	6
	176	16	4
Net Expenditure	3971	9	10

" The rateable value of the Borough in 1925-26 was £759,514. The gross cost of medical inspection and treatment in both elementary and secondary schools for the twelve months ended December 31st, 1926, was £4,148, compared with £3,757 in the year 1925. The Government grant was half the nett expenditure, hence the net cost to the rates was £1,986."

The cost of the School Medical Service for 1926 per child on the school rolls was 4/10 gross and 2/4 nett, and the cost as a decimal part of a penny rate was 1.55 gross and 0.75 nett.

SCHOOL POPULATION AND AVERAGE ATTENDANCE.

There are 14 Council and 32 Non-Provided Schools in the town. The following Table gives particulars of attendances thereat during 1926 :—

Table 1.

	No. of Schools	No. on Rolls	Average Attendance	Percent. Attendance
Boys		2408	2234	92·7
Girls		2527	2320	91·8
Mixed		6001	5515	91·9
Infants over 5		4661	4940	80·6
Infants under 5		1468		
		17065	15009	87·9
SCHOOLS :				
Church of England	25	8518	7449	87·4
Roman Catholic	6	391	344	88·0
British	1	3435	3046	88·6
Council	14	4721	4170	88·3
Total, 1926	46	17065	15009	87·9

The decrease in the number of children on the school rolls was 292 as compared with 1925. The reduction is evenly distributed among the schools, *e.g.*, Church of England schools showed a decrease of 113; Roman Catholic, one of 69; British, 13; and Council, 97. The figures for 1921, 1922, 1923, 1924, and 1925 are given below for purposes of comparison :—

	No. on Rolls	Average Attendance	Percent. Attendance	Infants on Rolls
1921	18,617	16,112	86.5	——
1922	18,250	16,039	87.8	——
1923	17,964	15,851	88.2	——
1924	17,522	15,110	86.2	5,422
1925	17,357	15,009	87.9	5,832

The Birth rates in Blackburn were : in 1919, 14.0 per 1,000 of the population; 1920, 22.1; 1921, 19.5; and 1922, 16.8. The Infantile Mortality rates for the same years were : 1919, 94; 1920, 110; 1921, 109; 1922, 98. At the end of 1926 there were 1,468 infants under 5 years of age on the books, compared with 1,765 in 1925. Entrants five years or over showed an increase of 594 as compared with 1925.

The percentage attendance has remained the same, but it would have been higher but for the incidence of Chicken Pox,

Measles and Whooping Cough in the first quarter, and a sharp outbreak of Measles in the last two months of the year. Measles caused the closure of the Infant Departments in St. John's C. of E. School and St. Silas's C. of E. School. The incidence of Measles on the younger members of the school population is reflected in the figures of percentage attendances.

The High School for Girls, including Crosshill Preparatory School, had, during 1926, 478 on the roll, 146 of whom were scholarship holders. The Queen Elizabeth Grammar School had an average of 542 boys on the roll, 173 of whom were scholarship holders. The Education Authority have, at the request of the Governing Bodies, arranged for the medical inspection of the scholars in these two schools. No provision is made, however, for medical inspection by the School Medical Officer's staff at the Convent of Notre Dame Secondary School, where the average attendance was 249, of which 61 were scholarship holders.

Section 2.

MEDICAL INSPECTION.

The arrangements for Medical Inspection now working are for the Assistant School Medical Officer to devote nine half-days a week to routine inspections in the schools. The other two half-days are devoted to Inspection Clinics at the Town Hall. The Assistant School Medical Officer also attends the Minor Ailment Clinic, Victoria Street, every morning between 9 and 9-30.

The lady Assistant Medical Officer of Health devotes one half-day a week to the medical inspection of the older girls in the schools, and to the High School pupils.

The School Medical Officer assists with Routine Medical Inspections as the need arises.

At the routine medical inspections the doctor is accompanied by a nurse, who weighs and measures the children and tests their vision. Unfortunately, in many schools no weighing machine, or measuring standard, is available. This difficulty has now been got over by providing a portable apparatus, and all pupils examined have been weighed and measured.

At Church of England and Council schools, the nurse arrives between 9-15 and 9-30 a.m. in the morning and between 1-45 and 2 p.m. in the afternoons. In Roman Catholic schools the times

are 15 minutes later. The doctor arrives 10 or 15 minutes after the nurse. This scheme is adhered to as rigidly as possible in order to obviate undue disturbance of the teaching routine. Children whose parents accompany them are examined first so that the parents may return to their household duties.

The groups examined have been the same as those in 1925, *viz.*, Entrant group (5-6 years of age); Intermediate group (8-9 years of age); Leaver group (13-14 years of age). An additional group (11-12 years of age) has also been examined.

The following schools have a room apart available for medical inspection:—Queen Elizabeth's Grammar School, where the gymnasium is used, with two rooms adjoining; the Girls' High School; Blakey Moor Central School, Teachers' room; St. Paul's (Boys), Assembly room; Bangor Street (Open-Air Class and Girls), Teachers' room in Girls' School; Audley Range (Mixed and Infants), Assembly room; Accrington Road (Infants), Teachers' room; Accrington Road (Mixed), Teachers' room or the chemical storeroom; Furthergate, Club room; Griffin, Parish Hall; St. Peter's C. of E., Club room.

In the others the examinations have to be done: (*a*) In the cloakroom; (*b*) In a classroom vacated for the purpose; (*c*) In a large schoolroom behind screens. One of the essentials for efficient examination is quietness, and this desideratum is impossible under the conditions holding in some schools. These schools were designed and built in the years before medical inspections were thought of, and therefore no provision has been made. I would like to take this opportunity of thanking the Head Teachers for the very courteous and self-denying fashion in which they have done their best to give the medical inspector the most favourable conditions under which to carry out his work. Without their help, in some instances, medical examinations would have been well-nigh impossible.

By kind permission of the Trustees, the Wescoe Memorial Hall was used during the last quarter of the year, for routine medical inspection purposes. Arrangements are also in progress elsewhere for the utilization of other than school premises for this purpose, so that groups of schools will be served.

The medical inspector, at the end of each group routine examination, makes a survey of the sanitary accommodation in relation to its cleanliness and proper working order. He reports to the School Medical Officer any defects found, and also reports those schools which maintain a high standard of cleanliness.

FINDINGS OF SCHOOL MEDICAL INSPECTION.

Table 2.

Name of School	Entrants 5 to 6 years of age				Intermediates 8 to 9 years of age				12 Years Old Group				Leavers 13 to 14 years			
	Number Examined		Parents Present		Number Examined		Parents Present		Number Examined		Parents Present		Number Examined		Parents Present	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	
Accrington Road C.	38	31	23	22	12	12	3	6	29	23	1	3	22	39	2	
Audley Range C.	27	35	17	26	11	13	5	4	18	20	—	4	9	12	1	
All Saints' C.E.	19	11	9	7	8	9	2	2	12	8	7	1	11	9	—	
Bank Top C.	23	24	14	12	12	12	1	5	17	16	—	1	8	19	2	
Bangor Street C.	—	—	—	—	14	2	9	—	37	76	6	10	36	28	1	
Blakey Moor Central	—	—	—	—	—	—	-	—	87	103	5	2	68	46	—	
Cedar Street C.	56	53	44	40	21	14	1	3	19	20	4	4	16	17	2	
Christ Church C.E.	33	32	13	17	36	34	9	10	25	33	3	—	17	39	—	
Emmanuel C.E.	18	29	11	14	14	12	1	4	14	11	1	—	26	6	—	
Furthergate C.	—	—	—	—	13	12	1	2	11	24	—	2	9	19	1	
Four Lanes End C.	13	11	8	9	12	7	6	—	—	8	—	1	6	2	2	
Griffin C.E.	35	26	19	15	15	14	7	10	17	14	4	1	6	16	1	
Holy Trinity C.E.	26	32	14	16	13	15	4	7	18	24	1	5	10	15	1	
Lower Darwen C.	11	4	9	2	5	0	1	4	2	8	—	1	4	7	—	
Mill Hill C.	39	37	15	17	17	24	2	9	9	17	—	3	21	10	1	
Maudsley Street British	21	36	13	25	17	13	—	6	19	15	2	2	13	18	1	
Moss Street C.	22	26	13	19	11	14	3	—	16	22	1	4	17	9	—	
C. of E. Central	—	—	—	—	—	—	—	—	57	78	4	8	65	65	3	
Park Road C.	44	38	24	14	13	11	3	3	12	22	—	1	31	18	—	
St. Aidan's C.E.	41	37	25	20	22	20	6	4	15	23	1	1	9	11	—	
St. Alban's R.C.	61	68	32	33	31	5	10	5	19	50	1	4	25	35	—	
St. Alban's Hr. Grade (Boys)	—	—	—	—	—	—	—	—	40	—	2	—	36	—	—	
St. Anne's R.C.	—	—	—	—	24	29	4	7	40	39	2	9	28	39	1	
St. Andrew's C.E.	—	29	—	20	5	7	1	2	16	21	—	1	12	6	2	
St. Barnabas' C.E.	37	27	29	19	27	13	12	5	23	23	1	3	15	9	1	
St. Bartholomew's C.E.	17	13	12	10	13	12	6	3	13	7	2	2	14	8	1	
St. Gabriel's C.E.	14	20	8	17	16	6	11	3	2	4	—	—	—	—	—	
St. James' C.E.	17	18	11	14	7	5	3	4	8	5	—	—	1	9	—	
St. James' C.E. (Black-a-Moor)	4	2	1	2	5	1	—	—	11	8	—	—	2	—	—	
St. James' C.E. (Guide)	—	3	—	1	2	4	—	3	12	6	—	—	5	2	—	
St. John's C.E.	—	—	—	—	21	23	10	—	23	13	2	1	23	18	1	
St. Joseph's R.C.	32	44	16	19	25	24	10	7	18	32	1	1	23	22	1	
St. Luke's C.E.	25	30	16	19	12	8	2	3	5	14	—	—	12	12	1	
St. Michael's C.E.	22	21	12	8	43	32	9	1	6	10	1	—	10	6	1	
St. Matthew's C.E.	19	21	7	13	16	13	4	2	13	21	4	—	10	17	1	
St. Mary's R.C.	—	—	—	—	21	22	8	9	16	9	1	3	7	18	1	
St. Paul's C.E.	—	—	—	—	17	15	6	6	18	21	1	4	11	12	—	
St. Peter's C.E.	22	20	9	14	10	6	4	6	9	17	1	3	9	8	—	
St. Peter's R.C.	38	28	18	13	14	13	5	6	17	27	2	6	11	22	—	4
St. Stephen's C.E.	—	—	—	—	12	14	2	8	10	7	2	—	6	10	1	1
St. Silas' C.E.	47	34	32	26	23	10	14	7	15	10	3	5	9	7	—	2
St. Thomas' C.E.	60	54	41	34	26	22	—	6	32	27	—	3	26	17	2	3
Sacred Heart R.C.	12	11	11	7	7	7	5	3	3	9	—	6	2	6	1	4
Wensley Fold C.E.	23	20	12	8	11	13	—	5	11	15	1	—	15	8	—	—
Witton C.E. (Infants)	17	9	11	7	—	—	—	—	—	—	—	—	—	—	—	—
Totals	933	934	549	559	654	568	190	180	814	960	67	105	717	696	33	48
	1867		1108		1222		370		1774		172		1413		81	

Table Showing Attendances of Parents at Routine Medical Inspections.

Table 3.

	No. Ex'd.	Parents Present	Percent Parents Attend-ances.	Male	Fe-male	Percent of P'ents' Attend-ances 1925.
Entrants	1867	1108	59·3	58·8	59·8	48·7
Intermediates	1222	370	30·3	29·0	31·7	25·5
12-Year-Old Group	1774	172	9·6	8·2	10·9	10·9
Leavers	1413	81	5·7	4·5	6·9	6·3
Total	6276	1731	27·6	27·0	28·2	22·6

Comparison with 1924 & 1925.

Code Group.	1926	1925	1924
Entrants	1867	1370	1891
Intermediates	1222	937	1470
12-Year-Old Group	1774	1727	1727
Leavers	1413	1125	1284
Total	6276	5159	6372

Owing to changes of staff, and consequent periods of short-handedness, the following schools and groups of children were not completed during the year :—

	Approx. No. Scholars.
St. Anne's : Entrants	111
St. Paul's : ,,	46
St. Andrew's : ,,	31
S. Stephen's : ,,	83
St. John's : ,,	130
St. Mary's : ,,	86
Furthergate : ,,	70

These children were examined early in 1927.

There has been a noticeable increase in the number of routine examinations of 1,117. This has been achieved by an addition to the number of sessions devoted to this work; and no changes in the medical personel of the department. Some of the

increase is caused by the wiping out of deficiencies left over from 1925, caused by dislocation in the staff during that year.

The past year has ended with practically all the work overtaken, and 1927 commences with all the schools, with the exception of seven infants' departments, up to date with their Routine Medical Examinations. In my report for 1925 the groups carried over to the following year were given, totalling approximately 500 scholars.

The attendance of parents showed a small increase as a whole, with a considerable increase for the infant group. This is partially accounted for by the bad trade conditions during the last half of the year. It was found that with employment at a low level more mothers came to the medical inspection of their children. The number of parents attending at the examination of the older scholars is not a very satisfactory feature. This examination is, perhaps, the most important of all, as advice can be given with regard to the after careers of the children.

The gap which exists in the medical supervision of the adolescent emphasises the need for careful advice at the leaving age. The choice of an occupation is usually arbitrary, and no thought is given as to the suitability of the child either physically, or—not less necessary—temperamentally. Too often a square peg is rammed into a round hole to the detriment of both. To those who are interested in the after employment of children leaving school, the report of the Industrial Fatigue Research Board on "A Study in Vocational Guidance" contains much suggestive material. I refer more fully to this report on page 106.

The attendance of parents is largest during examination of the youngest group. The percentage decreases rapidly as the children grow older, and the fall is greater for the boys. In only 4.5% boys and 6.9% girls did parents attend for the last medical examination during school life. This, as already mentioned, is unfortunate.

The number of Refusals to allow children to be examined was 8. The figure for 1925 was 17. In some, after a personal interview explaining the objects of the examination, the refusal was withdrawn.

Findings at Routine Medical Inspections.

Table 4.

Uncleanliness.

Groups	Condition of Head					Condition of Body				1925 %age Clean	
	Clean	Dirty	Nits	Pediculi	%age Clean	Clean	Dirty	Flea bitten	%age Clean	Head	Body
Entrants :											
Boys	889	12	24	8	95·2	914	1	18	97·9	94·0	95·1
Girls	684	2	207	41	73·2	905	—	29	96·9	65·6	90·2
Intermediate :											
Boys	593	15	35	11	90·6	595	6	53	91·0	98·0	93·6
Girls	303	0	232	33	53·4	528	4	36	93·0	90·0	91·4
Other Groups :											
Boys	758	22	22	12	93·2	748	26	39	91·9	97·8	97·1
Girls	614	5	331	10	64.0	915	3	42	95·3	81·8	92·7
Leavers :											
Boys	676	13	25	3	94·3	664	18	35	92·6	97·9	98·3
Girls	430	0	259	7	61·8	669	6	21	96·1	75·8	91·8
Totals :											
Boys	2916	62	106	34	93·5	2921	51	145	93·6	96·9	96·0
Girls	2031	7	1029	91	64·4	3017	13	128	95·5	78·3	91·5
Combined Total	4947	69	1135	125	78·8	5938	64	273	94·6	87·6	93·7

The figures furnished in the above Table bring out some interesting points. Taking all the groups, the boys' heads were much cleaner than the girls', a superiority over all the groups of 29.1%. The cleanest heads were in the Entrant group of boys (95.2%), closely followed by the Leaver group of boys (94.3% clean). The worst results were in the eight-year-old group of girls (53.4% clean). The cleanest heads among girl scholars were those in the Entrant group (73.2% clean). The figures for head cleanliness in girls shows a considerable falling off from the 1925 figures; only one group showing improvement, *viz.*, the Five-year-old group, which improved from 65.6% clean in 1925 to 73.2% clean in 1926.

These figures, when read in conjunction with the almost universal practice of "bobbing" and "shingling" girls' hair, are not very comforting. This practice is apparently leading to neglect of the hair. In girls with long hair, the hair is now almost invariably clean. The fact that it has not been cut short indicates parental pride in the child's hair, and a high standard of cleanliness follows.

The following Table gives comparative results over periods of years.

Table 5.

	Percentage of Clean Heads		Percentage of Clean Bodies	
	Boys	Girls	Boys	Girls
1910-1914 inc.			54%	
1920-1923 inc.	93·2		98·1	
1924	98·4	74·1	95·9	92·2
1925	96·9	78·3	96·0	91·5
1926	93·5	64·4	93·6	95·5

Body Cleanliness.

The cleanest group were the Boy Entrants with 97·9% clean. The dirtiest group were the Intermediate group of boys with 91% clean. As a whole the girls showed a slightly superior rate of cleanliness to the boys. This is a reversal of the findings in previous years. Comparison with former years is given in Table 5.

The period of the Coal Strike exerted a perceptible influence upon the cleanliness of the children. The number of children found in an unclean condition in the schools, by the Nurses, arose quite noticeably, and especially so towards the later months. This effect was brought about probably by two causes: (*a*) The scarcity of fuel and the consequent lack of hot water, (*b*) The closing of the public baths

Personal cleanliness of pupils is one of the most powerful educational appeals and is of the highest importance in the promotion of clean living and self-respect. Habits of cleanliness inculcated and practiced during school life will remain when school days are past. It is hence of the greatest importance that children be given every facility to practice cleanliness, and both exhortation and more especially example, be continually placed before them, so that there may be developed an ingrained habit of cleanliness

The English Regulations require 2 basins to 50 scholars in a Primary school; whilst in Secondary schools 1 basin for every 20 boys up to 100, and then 1 to every 25; for girls, 1 basin for every 10 up to 100, and then 1 to every 20.

The provision of basins with a supply of water is not enough alone. Suitable soap is required with an adequate supply of towels. Roller Towels are inadvisable; the indictment of being the cause of the spread of Conjunctivitis has been proved against them. Above all, insistence upon the use of wash-hand basins is essential. It should be a disgrace for a boy or girl to appear in class with grimy hands and dirty face. Educational Authorities can provide the fullest facilities and yet the children be none the cleaner. The inculcation of personal cleanliness appears to be a valuable item of scholastic instruction.

The lack of domestic facilities, such as baths; overcrowding in the homes and generally unsatisfactory familial surroundings, are often reflected in the personal cleanliness of the children. But very clean children may come from very poor districts; on enquiring into the home conditions it is found that poverty is no bar to home cleanliness, and the energy of one mother may conquer obstacles which to another prove insurmountable.

Table 6.

CLOTHING AND FOOTGEAR.

	Entrants.		Inter-mediates.		11-12 year group		Leavers.	
Clothing—	M.	F.	M.	F.	M.	F.	M.	F.
Satisfactory	920	929	618	544	755	913	663	663
Unsatisfactory	13	5	36	24	59	47	54	33
Percentage satisfactory...	98·6	99·5	94·5	95·8	92·8	95·1	92·5	95·3
Footgear—								
Satisfactory	928	934	648	567	795	953	700	692
Unsatisfactory	5	—	6	1	19	7	17	4
Percentage satisfactory	99·5	100·0	99·0	99·8	97·7	99·3	97·7	99·4

Considering the stringent financial conditions throughout the year, the findings, particularly in relation to footwear, are very satisfactory. The two sexes do not show any striking differences, though the Elder Boys are apparently less well clothed than any other group. The Entrant group of Girls and the Entrant group of Boys were the most unsatisfactory in relation to footgear.

Table 7 shows a comparison with last year's figures, a plus sign denoting improvement, and a minus sign, deterioration.

Table 7.

	Entrants.		Inter-mediates.		11-12 year group.		Leavers.	
	M.	F.	M.	F.	M.	F.	M.	F.
Clothing	+ 1·0	+ 2·5	— 2·1	+ 0·9	—3·7	+3·5	—3·9	+ 3·5
Footgear	— 0·2	+ 1·1	— 0·5	—0·2	—0·6	—0·2	—1·9	0·4

The subjoined Table gives the findings during the "war years" compared with 1926.

Table 8.

PERCENTAGE SATISFACTORY.

	1915 - 1918 inclusive.		1926.	
	Clothing	Footgear	Clothing	Footgear
Boys	80·3	92·2	94·6	98·5
Girls	82·7	95·6	96·4	99·6

A marked improvement in clothing with an accompanying slighter improvement in footgear in both boys and girls is a feature of 1926 when contrasted with the "war years."

Table 9.

NUTRITION.

	Entrants 5 years		Intermediates 8 years		Other Groups 12 years		Leavers	
	M	F	M	F	M	F	M	F
Normal	879	854	551	472	674	762	591	587
Below normal	54	80	103	96	140	198	126	109
Percentage normal	94·2	91·5	84·3	83·1	82·8	79·4	82·4	84·3
Percentage Normal 1925	89·1	89·7	83·4	77·0	80·8	76·1	84·6	81·9
Difference 1925 & 1926..	+5·1	+1·8	+0·9	+6·1	+2 0	+3·3	—2·2	+ 2·4

In every group, with the exception of the Leaver group of boys, there is apparent a raised standard of nutrition. The Entrant group comprised children born in 1921; the Intermediate group children born in 1918; the Leaver group children born in 1912; whilst the Other group contained children born in 1914.

The corresponding groups for 1925 were those of children born in 1920, 1917, 1913, and 1911. The Intermediate group consists, therefore, of children born during the war period. It is, however, a matter of difficulty to trace any cause and effect from figures relating to nutrition in children. The issue is complicated by factors whose influence is hard to assess.

Comparison with War Years.

Percentage of Children showing Normal Nutrition.

	1915-1918 inc.	1925	1926
Boys	79·3%	84.5%	85·9%
Girls	76·1%	81·3%	84·6%

Height and weight are of fundamental importance in the medical inspection of school children. It is to be regretted that in 30 schools in the Borough no weighing machine is available. This difficulty has been overcome by the use of a portable machine and a height standard, which are conveyed to schools when required. The records for 1926 are, consequently, more complete in this respect than for the past few years. Height and weight are essentials in the estimation of an adult's fitness for work, and are equally essential in the estimation of a child's fitness for school. In the adult they are an index of nutrition : in the child an index of growth.

Nutrition and growth are the building up of body materials whose combustion results in the production of heat, of muscular movement and nervous energy. A deficiency of diet in the young years of life causing a diminution of growth is never fully compensated for in later years. Mumford showed that " In every 100 boys at the Manchester Grammar School who were retarded one year or more in their work, 83% showed evidence of damaging disease in early infantile life." The most potent cause of backwardness was the permanent influence on growth produced by past illnesses.

It is seen, consequently, that the normal vitality and development of a child can be judged by its growth. Causes such as chronic malnutrition or illness, hindering the attainment of the full standard are likely to impair efficiency in other directions also.

Malnutrition may be brought about by excessive or improper feeding as surely as it is by deficiency of food. Over-feeding and insufficient exercise in the growing child will cause malnutrition.

The signs of malnutrition are readily recognisable. The child easily tires and is irritable; it lacks physical and mental control: The muscles are flabby and the posture lax in consequence. Skin troubles and sore eyelids are frequently present, whilst the eyes are heavy, with lining of the lower eyelids. These children are peculiarly liable to chilblains and catarrhs.

A most interesting and valuable monograph detailing investigations into Diets for boys during the school age, by Dr. Corry Mann, was published by the Medical Research Council during the year. Observations were made upon the nutrition of boys of school age living in an institution near London. The housing conditions were excellent and the sickness rate low. The final conclusion arrived at was as follows :—" In an institution where there was no deficiency of fresh air or sunshine an immediate improvement in physique followed an alteration in the quality of the diet which was already adequate from a physiological standpoint. This improvement was most successful when fresh cow's milk, recently pasteurised, from a clean and reliable source, formed the additional item of food, and such improvement, both in the weight and height increments, was not a temporary phase but was maintained over a period of one, two and three years."

Another interesting point was that, with some exceptions, there was more growth during the summer period and usually more gain in weight.

The following Table from the Report is inserted, as it may be of value to those who are interested in this subject.

Table 10.

	Water-cress	Sugar*	Basic Diet	Milk*	Casein	Butter* N.Z.	Veget* Marg.
No. of Boys in Group ...	26	20	61	41	30	26	16
Average gain in weight per boy in 1 year	5·42 lbs.	4·53 lbs.	3·85 lbs.	6·98 lbs.	4·01 lbs.	6·30 lbs.	5·21 lbs.
Average increase in height per boy in 1 yr.	1·70 ins.	1·94 ins.	1·84 ins.	2·63 ins.	1·76 ins.	2·22 ins.	1·84 ins.

* Equivalent calories.

Table 11.

HEIGHTS AND WEIGHTS.

Year of Birth	BOYS. Number Examined	Average Height in inches	Average Weight in lbs.	Average Maximum Height in inches	Average Minimum Height in inches	Average Maximum Weight in lbs.	Average Minimum Weight in lbs.	GIRLS. Number Examined	Average Height in inches	Average Weight in lbs.	Average Maximum Height in inches	Average Minimum Height in inches	Average Maximum Weight in lbs.	Average Minimum Weight in lbs.
1921	540	41.73	40.32	45.08	35.72	45.08	34.02	542	41.24	41.85	44.61	36.83	47.30	36.15
1920	240	43.09	42.89	46.08	40.37	48.95	37.49	254	42.63	48.55	45.65	39.67	47.62	35.34
1919	81	45.33	46.91	47.51	42.20	50.86	41.71	46	44.81	46.01	42.96	40.10	47.43	37.22
1918	454	46.89	50.51	49.62	41.80	58.82	44.23	316	46.39	49.19	45.58	42.04	58.04	40.45
1917	53	46.00	47.00	51.71	44.14	63.68	47.39	42	48.85	53.38	51.32	45.71	59.36	46.96
1916	16	49.75	55.38	51.50	48.00	60.00	50.75	19	50.84	58.75	52.44	47.62	61.25	49.00
1915	16	51.29	61.73	54.12	50.25	67.50	59.00	22	52.27	62.09	57.75	47.50	69.00	46.50
1914	704	53.95	70.65	57.90	48.68	87.80	57.80	819	53.77	69.36	58.53	50.58	92.55	55.19
1913	25	54.45	81.40	57.50	52.00	101·25	64.00	26	56.13	83.59	57.36	53.77	86.30	71.27
1912	522	57.19	82.67	64.57	53.36	104.03	67.19	652	58.27	86.92	60.88	52.13	117.13	65.65

Taking the four groups of school children examined, namely, those born in 1921, 1918, 1914 and 1912, the following are the main characteristics of each group :—

Children Born in 1921.—The boys are 0.49ins. taller and 1.53 lbs. lighter on the average than the girls. The average minimum weight of the boys is 2.13lbs. less than the corresponding weight of girls; and the average minimum height is 1.111ns. shorter. The average maximum stature at this age in boys is 0.47ins. shorter and their weight 2.22lbs. lighter. The swing between the heaviest or tallest boy and the lightest or shortest boy is 11.06lbs. and 9.36ins. respectively. For girls it is 11.15lbs. and 7.78ins.

Children Born in 1918.—The boys are 0.5ins. taller and 2.87lbs. lighter on the average than the girls. The average minimum weight of the boys is 3.78lbs. heavier than the corresponding weight of girls; and the average minimum height is 0.24ins. taller. The average maximum stature at this age in boys is 4.04ins. taller and their weight 0.78lbs. heavier. The swing between the heaviest or tallest boy and the lightest or shortest boy is 14.59lbs. and 7.8ins. respectively. For girls it is 17.57lbs. and 3.54ins.

Children Born in 1914.—The boys are 0.18ins. taller and 1.29lbs. heavier on the average than the girls. The average minimum weight of the boys is 2.61lbs. heavier than the corresponding weight of girls; and the average minimum height is 1.9ins. shorter. The average maximum stature at this age in boys is 0.63ins. shorter and their weight 4.75lbs. lighter. The swing between the heaviest or tallest boy and the lightest or shortest boy is 20lbs. and 9.22ins. respectively. For girls it is 37.36lbs. and 7.95ins.

Children Born in 1912.—The boys are 1.08ins. shorter and 4.25lbs. lighter on the average than the girls. The average minimum weight of the boys is 1.54lbs. heavier than the corresponding weight of girls, and the average minimum height is 1.23ins. taller. The average maximum stature at this age in boys is 3.69ins. taller and their weight 13.10lbs. lighter. The swing between the heaviest or tallest boy and the lightest or shortest boy is 36.84lbs. and 11.21ins. respectively. For girls it is 41.48lbs. and 8.75ins.

The heaviest boy examined at routine medical inspections in 1926 attended St. Peter's C. of E. School, and weighed 161lbs. The heaviest girl examined weighed the same amount, but attended Cedar Street School.

The tallest boy measured 70.75ins., and went to Bangor Street School; and the tallest girl 66.5ins., and she attended St. Peter's C. of E. School.

The data furnished by the table above are based on comparatively small numbers, so that the table will become more valuable year by year. The average heights and weights of both boys and girls are slightly less than published accounts of similar measurements made on South Country children. The mean averages, taken over the whole series of cases examined, is very little different from the country as a whole.

From the age of 5 years to that of 8 years boys gained on an average 10.19lbs. in weight and 5.16ins. in height. The girls gained 7.34lbs. in weight and 5.15ins. in height. From 8 years to 12 years similar estimations gave 20.14lbs. gain in weight for boys and 20.17lbs. in weight for girls. 7.06ins. in height for boys and 7.38ins. for girls. During the last two years of school life the boys gained 12.02lbs. in weight and 3.24ins. in height, whilst the girls gained 17.56lbs. in weight and 4.5ins. in height.

These figures seem to show that the period of most rapid growth in stature is rather earlier in life for boys than for girls; the latter grow most rapidly and put on most weight during the last two years of school life. Boys grow most rapidly between 8 and 12 years of age.

During the period of growth from 8 years of age to 14 years of age the boys increased 10.3ins. in height and 32.16lbs. in weight; the girls increased 11.88ins. in height and 37.73lbs. in weight. During the whole period of school life, from 5 years of age to 14 years, the boys increased 15.46ins. in height and 42.35lbs. in weight; and the girls 17.03ins. in height and 45.07lbs. in weight.

Apparently, taken as a whole, the girls attending the Elementary Schools in Blackburn show a physique slightly superior to the boys.

Table 12.

HEART AND CIRCULATORY SYSTEM.

	Entrants		Intermediates		Other groups		Leavers		%age
	M	F	M	F	M	F	M	F	
Organic disease	1	5	7	1	5	10	8	9	0·73
Functional disease	3	2	5	7	5	12	6	7	0·75
Anæmia	17	21	18	19	14	34	12	12	2·34
Other defects	—	—	—	—	—	—	—	—	—
Totals	21	28	30	27	24	56	26	28	3·82

Comparison with 1925 shows an increase of 0.10% of Organic Disease, a decrease of 0.57% of Functional Disease, and an increase of 0.96% of Anæmia.

For the various groups of children the percentages for the two years of all defects under this heading are :—

Groups	1926	1925
Entrants	2·6	2·9
Intermediates	4·6	2·6
Other Groups	4·5	4·0
Leavers	3·8	3·3

Although the figures for England and Wales are naturally not yet available, it is interesting to compare Blackburn's percentages of defects for 1926, with those furnished for the whole of England and Wales in 1925, in the Report of the Chief Medical Officer of the Board of Education. The figures, given in percentages, are as follows :—

	Blackburn.	*England & Wales.*
Organic Disease	0.73	0.72
Functional Disease	0.75	1.11
Anæmia	2.34	1.21

Organic and Functional Heart Disease is rather less prevalent, but Anæmia is more prevalent, than for the whole of England and Wales. Anæmia is more prevalent in industrial towns than in rural areas.

Organic Heart Disease is a heavy cause of death in adult life. It is the greatest single cause of death. The foundation of much of this mortality and concomitant invalidity is laid in childhood. The public do not yet appreciate the importance of paying serious attention to joint pains in children. Natural growth is not a painful process, and the term "growing pains" is a dangerous euphonism.

The facilities for the necessary prolonged treatment and after-care required for rheumatic children are at present inadequate, as the seriousness of the position has only recently been understood. The pressure on the accommodation in general Hospitals is too great to allow of prolonged in-patient treatment of these cases. They are consequently sent home to surroundings which have brought on the original attack. In time serious cardiac trouble

manifests itself and a life of invalidism is initiated, ending sooner or later in death. There is a real need for Children's Convalescent Homes, wherein prolonged medical attention and concurrent education can be carried out. When the appropriate stage of recovery and resistance has been reached they would be discharged and drafted into Open-Air Schools. Experience has shown that these children do well in this type of school.

Rheumatic disease is a complaint of cold, damp and sunless climates and is especially prevalent during the winter months. It is predisposed to by lack of sunshine. From the conclusions arrived at by the Committee referred to below, it may be grouped as one of the Sociological diseases and can be, to a large extent, prevented. There is apparently some connection between the healthy and unhealthy conditions of the throat and the predisposition to the disease, and, therefore, more essentially in damp and sunless sites, it is imperative that a careful scrutiny be maintained on the condition of the throat and mouth of school children.

A valuable report on Rheumatic Heart Disease in Children was issued by the Science Committee of the British Medical Association on July 3rd, 1926. This report was divided into four distinct sections, each dealing with different aspects of the problem. From the preventive aspect the first part, "Predisposing Causes of Rheumatic Infection," is the most important. The chief conclusions come to by the Committee were as follows :—

(1) The disease in England is essentially one of children of the artisan class, living in damp rooms in an industrial town.

(2) Powerful predisposing factors are climate, age, social status, industrialization, damp dwellings, and tonsillar infection.

(3) One of the minor factors, attendance at school is probably the most important. The importance of heredity is more apparent than real.

(4) Conditions of great poverty, destitution, under-feeding, overcrowding, excessive dirtiness, do not seem to have an influence specifically towards rheumatic infection.

(5) The early recognition and treatment of tonsillar disease is doubtless a factor sparing the children of the richer classes from attack.

The report states that further investigation into the housing

conditions of rheumatic subjects is desirable, and it is proposed, on the limited scale applicable, to carry out an investigation among Blackburn school children, during 1927, on these lines.

Table 13.

CHEST COMPLAINTS (other than Tuberculosis).

	M	F	Percentages M	Percentages F	Total Percentage	Total Percent. 1925
Entrants	21	17	2·3	1·8	2·0	3·4
Intermediates	16	11	2·4	1·9	2·2	1·8
Other Group	6	9	0·7	0·9	0·8	1·5
Leavers	4	4	0·5	0·5	0·5	1·0
Totals	47	41	1·5	1·3	1·4	1·9

Respiratory Diseases were, on the whole, less prevalent in the children examined during routine inspections, than in 1925. The year under review was one of the drier years and perhaps this factor played a part. The percentages in the Entrants are invariably high and may be partly accounted for by the fact that this group of children are examined during the winter term.

Bronchitis in a mild degree is the usual defect. The prevalence of respiratory troubles in the upgrown population, and the high comparative death-rate therefrom, is reflected also in the child population. Impure atmospheric conditions and the average high humidity are indubitably predisposing causes.

TUBERCULOSIS.

Table 14.

CHILDREN REFERRED TO THE TUBERCULOSIS OFFICER.

	M	F	TOTAL
Positive	3	—	3
Pre-Tubercular	2	5	7
Negative	3	2	5
Bone or Joint Tubercle	—	—	—
Glands or Skin Tubercle	5	11	16
	13	18	31

The diagnosis of Pulmonary Tuberculosis in children during the rush of routine examination is usually an impossibility. The noise, and the limitation of time, inseparable from the examinations, militates very effectually against the careful and detailed procedure necessary to detect this elusive disease. The procedure adopted is to refer doubtful or suspected cases to the Inspection Clinic for a thorough examination, and, from there, pass them on to the Clinical Tuberculosis Officer for his opinion. If they come successfully through his examination they are allowed to go back to school, where they are kept under observation.

In 1925, 23 children were referred, and of these 3 were positive, 5 pretubercular, 2 negative, and 13 were suffering from Glands or Skin Tuberculosis.

In all cases, an endeavour is made to keep contacts of known cases of Tuberculosis under supervision, and these cases are brought forward for re-examination at each routine medical inspection. In this way, if a child who is a contact of a definite case of Tuberculosis, is likely to develop the disease, it is discovered early and treatment put into force at a time when it is most likely to be effective.

The small Table attached gives in a concise form the number of Contacts among school children who were examined during 1926.

Number of Cases under observation at the beginning of 1926	271
Number of Cases added during the Year	54
Number of Cases taken off during the Year	40
Number of Cases under observation at the end of 1926	285

146 of these children were re-examined in school during the year, and 36 other children who at some time or other had been notified as suffering from some form of Tubercular infection.

Table 15.

NOTIFICATIONS OF AND DEATHS FROM TUBERCULOSIS IN CHILDREN OF SCHOOL AGE.

No. of Primary Notifications				No. of Deaths			
Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
M	F	M	F	M	F	M	F
8	5	11	14	1	4	2	—

The ages at death in the fatal cases were :—

		5 to 10 years	10 to 15 years
Pulmonary	M	—	1
	F	1	3
Non-Pulmonary	M	1	1
	F	—	—

NOSE AND THROAT.

Table 16.

	Entrants.		Inter-mediates.		12 year old Group.		Leavers.	
	M.	F.	M.	F.	M.	F	M.	F.
NOSE :								
Deflected Septum	1	...	2	2	2	4	5	3
Other Defects	...	2	3	1	2	3	2	4
TONSILS :								
Slight Enlargement	229	212	176	121	180	187	132	133
Much Enlargement	39	38	35	27	41	59	42	24
ADENOIDS :								
Present alone	9	6	10	4	3	4	3	1
Mouth Breathers	8	4	14	5	18	9	7	10
Enlarged Tonsils and Adenoids (but not Mouth Breathers)	40	25	24	15	8	16	5	8
GLANDS : CERVICAL :								
Palpable	171	175	233	198	135	170	88	97
Visibly Enlarged	1	...	2	4	1	4	3	4
	498	462	499	377	390	456	287	284

Table 17.

PERCENTAGES FROM ABOVE TABLE.

	1926				1925			
	Entrants.	Intermediates.	12 year old	Leavers.	Entrants.	Intermediates.	12 year old.	Leavers.
Abnormalities of Tonsils	27·7	29·3	26·3	23·4	35·4	34·4	20·2	16·3
Adenoids	4·9	5·8	3·2	2·4	0·9	0·1	0·1	0·1
Enlarged Glands	18·6	35·7	17·5	13·5	25·3	30·0	25·5	13·1

Analysed in a somewhat different manner, the percentage defects in the routine groups examined are seen in the following table.

Table 18.

Group.	Nose and Throat Defects		Enlarged Cervical Glands	
	Male.	Female.	Male.	Female.
Entrants	34·9	30·7	18·4	18·7
Intermediates	40·4	30·8	35·9	35·5
12-Year-Old Group	31·2	29·4	16·7	18·1
Leavers	25·9	26·3	12·7	14·5

The main deductions from the above figures are :—Firstly, a large percentage of children show abnormalities of the tonsils. Secondly, the small percentage of children with adenoids. Thirdly, the high number of children with enlarged cervical glands. It must be remembered that only a few of these cases are Tuberculous in nature. The common causes of enlarged glands in the neck are : decayed and septic teeth, enlarged and unhealthy tonsils, and sore scalps. Tuberculosis is comparatively rare. The eight-year-old group give the most unfavourable results throughout.

Adenoids are overgrowths of normal lymphoid tissue situated in the naso-pharynx. Their causation is not definitely known, but faulty breathing habits in young life seem to be one proved cause. The nose is intended to be used as a heating and filtering agent for the air passing onward to the lungs. To make it more effective it is designed internally very much on the same lines as an ordinary hot-water radiator. The soft mucous membrane lining it is richly supplied with blood vessels, and is in a perpetually moist condition in health. As cold air passes through the nose it is warmed and moistened by the blood circulating in the mucous membrane, but at the same time the coldness causes some con-

traction of the vessels. If the nose is not used for the purpose Nature intended, and if the child gets into the habit of breathing through the mouth, there results a chronic congestion of the lymphoid tissue, leading ultimately to overgrowth. Hence the importance of careful after-instruction subsequent to an operation for removal of adenoids. If the faulty habit of breathing remains uncorrected, the adenoids will, in due course, develop again. It is an endeavour of the department to submit all cases operated upon for enlarged Tonsils and Adenoids, to a course of breathing exercises in the Remedial Exercises Clinic. Undoubtedly the presence of adenoids exerts a more profound influence upon the bodily and mental development of a child than is popularly imagined. The defective aeration of the blood, consequent upon the faulty respiration, is the probable cause. Incidentally a considerable strain is thrown upon the lungs, particularly in cold weather, owing to blasts of unheated air reaching them with each inspiration. Herein lies the reason for the liability to cold, bronchitis and pneumonia which children with these defects exhibit.

Enlarged Tonsils occur in a considerable percentage of children. Enlargement commences early in life. Like Adenoids, enlarged Tonsils are overgrowths of normal tissue and they also obstruct breathing, though not to the same extent. They are dangerous chiefly in that they serve as breeding grounds for vicarious organisms which gain entrance through the nose and mouth; the most frequent and serious are those which cause Scarlet Fever and Diphtheria. A grossly enlarged tonsil is a danger spot and should always be removed by appropriate measures. Slightly enlarged tonsils are usually of no great moment and appear to adjust themselves without causing any bodily upset. The wholesale removal of moderately enlarged but healthy tonsils is to be deprecated. It is the enlarged, unhealthy and septic tonsil which is a source of danger. This kind of tonsil is readily diagnosed by careful examination.

Many of the disabilities found so frequently in school children, *e.g.*, Chronic colds, nasal eczema, ozœna, otorrhœa, and the like, are caused directly by an hypertrophied and unhealthy condition of the lymphoid tissue situated in the pharyngeal and post nasal spaces. When once the overgrowth has been removed efficiently, the child commences to develop in body and mind to a degree which is little short of astonishing.

Table 19.

Dull and Backward Children.

Groups	M	F	Total	Per-cent
Entrants	5	3	8	0·4
Intermediate	6	7	13	1·0
12-Year-Old	14	13	27	1·5
Leaver	15	8	23	1·6
Totals	40	31	71	1·1

The above figures give no true indication of the number of Dull and Backward Children in the schools. They give, merely, the number who were considered to be so, on routine examination. Neither do they differentiate between children who were backward owing to illness or other physical defect, and those who were retarded through specific mental defect. A more complete Table will be found later in the Report. (See page 117.)

Table 20.

Skin Diseases.

	Entrants		Intermediates		12 year olds		Leavers	
	M	F	M	F	M	F	M	F
Ringworm—Scalp	3	2	2	—	—	—	2	1
Body	1	2	—	—	1	1	—	1
Impetigo	5	4	4	2	2	3	2	3
Scabies	4	5	2	—	2	2	—	—
Eczema	3	1	—	—	1	1	2	2
Other	11	4	4	3	3	5	9	5
Totals	27	18	12	5	9	12	15	12

Percentage Incidence (Routine Examination).

	1926		1925	
	Boys	Girls	Boys	Girls
Entrants	2·9	2·0	2·7	3·1
Intermediates	1·8	0·9	2·2	0·7
12-Year-Olds	1·1	1·2	1·9	1·3
Leavers	2·1	1·7	1·4	0·9
	7·9	5·8	8·2	6·0

The Total incidence of skin disease was slightly less than in 1925. In both years the Entrants were most affected. The reason for this is not quite clear. A truer estimate of the amount of skin trouble in school children is given by the figures of the Minor Ailments Clinic (page 55).

The number of cases of Scabies found during routine medical inspections have increased. The Coal Dispute may have a bearing on this, but I stated in my last report that the figures for 1925 were exceptionally low. The present figures are more in keeping with my past experience in various towns.

Table 21

EYE TROUBLES.

EXTERNAL EYE DISEASE.—PERCENTAGES.

Complaint	Entrants		Inter-mediates		12 year olds		Leavers	
	M	F	M	F	M	F	M	F
Squint	2·9	2·5	1·2	1·7	3·6	1·4	2·0	3·4
Blepharitis	0·5	0·9	0·5	0·2	0·1	0·4	0·1	0.6
Conjunctivitis	—	—	0·1	0·5	0·1	0·1	—	—
Corneal Opacity	0·1	0·1	0·3	0·5	0·2	0·3	0·3	0·1
Other Defects	0·3	0·3	0 5	0 4	0·5	0·4	0·8	—
	3·8	3·8	2·6	3·3	4·5	2·6	3·2	4·1
	3·8		3·0		3·5		3·6	

COMPARISON WITH 1925.

	1926		1925	
	Male.	Female.	Male.	Female.
Entrants	3·8	3·8	4·1	2·9
Intermediates	2·6	3·3	2·4	4·8
12-Year-Olds	4·5	2·6	2·6	3·4
Leavers	3·2	4·1	2·3	1·6

Squint is seen to be the most usual external eye defect. An eye which habitually squints, tends to become, if uncorrected, functionally useless, and ultimately blind. It is therefore of the utmost importance to detect squint early, and to put in hand as soon as possible measures of suitable treatment or eye exercises,

Table 22.

VISION.

Extent of Defect		Intermediates				12 year olds				Leavers				Total			
		M		F		M		F		M		F		M		F	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Normal 6/6 or 6/9.....	R	551	84·3	480	84·5	687	84·4	799	83·2	592	82·5	552	79·3	1830	83·7	1831	82·3
	L	552	84·4	473	83·3	668	82·0	775	80·7	578	80·6	567	81·5	1798	82·3	1815	81·6
6/12 to 6/24 ...	R	96	14 7	79	14·0	114	14·0	143	14·9	111	15·5	126	18·1	321	14·7	348	15·7
	L	89	13·6	86	15·2	131	16·1	166	17·3	117	16·3	121	17·4	337	15·4	373	16·8
6/36 or worse	R	7	1·0	9	1·5	13	1·6	18	1·9	14	2·0	18	2·6	34	1·6	45	2·0
	L	13	2·0	9	1·5	15	1·9	19	2·0	22	3·1	8	1·1	50	2·3	36	1·6

The above Table has been amplified to give the figures for vision in both eyes. In 1925 the vision of the worst eye only was included.

An analysis of this Table shows a progressive deterioration of vision in the course of school life.

	Intermediates		12 year old group		Leaver group	
	M	F	M	F	M	F
Normal Vision	84·3%	84·4%	83·2%	81·5%	81·5%	80·4%
Moderate Visual Defect	14·1%	14·6%	15·05%	16·1%	17·7%	16·2%
Severe Visional Defect	1·5%	1·5%	1·7%	1·9%	2·5%	1·8%

COMPARISON WITH 1925.—VISION LOWER THAN 6/9ths IN ONE OR BOTH EYES.

Groups	1926		1925	
	M	F	M	F
Intermediates	15·6	16·1	25·5	26·4
12-Year-Olds	16·8	18·1	22·6	25.9
Leavers	18·4	19·4	21·8	20·0

The Entrant group are not examined for visual acuity at routine examinations, as the majority do not know the letters of the alphabet.

From the comparison, a lower percentage of defects was discovered in 1926 than in 1925.

In comparison with the figures for England and Wales given by the Chief Medical Officer of the Board of Education, the standard of visual acuity in Blackburn is higher than the average. The greater general incidence of visual defect in girls is similar to that seen in the more extensive figures referred to above. Girls are more liable to be called upon to do home duties after school hours than are boys, and possibly this is an explanation.

There is undoubtedly some connection between retarded progress in school and defective eyesight. The eye is one of the chief gateways to learning. Backward children will not seldom make rapid progress with their studies, when once a visual defect has been detected, and corrected. The extent to which this defect can exist, without the child being aware of it, is surprising. At other times the child realises that his vision is not as good as his companions, but owing to an abhorrence of wearing spectacles, he keeps his suspicions to himself. This subject is dealt with more fully in the section devoted to the Treatment of Eye Defects. (See page 63).

Eye-strain is due to continued efforts at compensation for blurred images. In order that a well-defined image be thrown upon the retina, the lens of the eye varies in convexity according to the length of focus required. This alteration in curvature of the crystalline lens is secured by muscle action. Continued muscular effort in any part of the body produces fatigue, and the same phenomenon manifests itself in the eye should there be an abnormality in the shape of the eyeball, or through faulty methods of illumination leading to faulty habits. This is eye strain. The growing eye is particularly susceptible to adverse conditions, and the ill effects produced thereby are lasting.

The psychological effect of good lighting is recognised in business circles. In education, not only the artificial illumination, but the cleanliness and freedom from dust of the windows is important.

Illumination.

The standard of illumination used is known as the "foot candle." This is the light from a spermaceti candle burning 120 grains in an hour at a distance of one foot from the illuminated surface. The illumination is the result of the distribution of the light falling on a surface at right angles to the direction of the rays. The strength of this illumination varies inversely as the

square of the distance from its source. If the illuminated surface is inclined to the source of the light, then the amount of the light falling on this surface varies as the cosine of the angle. It is therefore important to remember that in relation to desks, books, blackboards, etc., the nearer the illumination approaches the vertical the brighter it is. Taking the average brightness of the sky as 1, the intensity of various forms of illumination are as follows: incandescent gas mantle, 10; carbon filament, 130; metal filament, 260; gas-filled lamp, 1,600. The light of an average sky is as bright as the eye can withstand with comfort, and experiment has shown that an illumination of 2 or 3 candle power per square inch of surface is the optimum brilliancy where the source of light is seen by the eye; for example, the surface of a book or paper. The problem of seeing in a poor light is not materially different from that of seeing in an excessive light. In both cases the ultimate result is eye strain and its consequent nervous manifestations.

The nature and colour of surfaces exert a big influence on the amount of light that is reflected from them. The smoother the surface, and the wider the angle of incidence of the light, the greater the reflection. This has an important bearing upon the production of glare, a most harmful phenomenon.

The maximum source of light should fall on the reading or writing surface from over the left shoulder of the scholar. This necessary arrangement is sometimes neglected in schools. Conditions under which children sit either facing the main source of light, or with their backs to it, are found too commonly. In the former position the effects of glare are occasioned. In the latter the child's body is interposed between the light and the object looked at, leading to deficient illumination. Using the eyes in bright sunshine for any close purposes is a powerful source of eye strain.

The Joint Committee of the Illuminating Engineers' Society reported that "No place is fit for use in a schoolroom when diamond type cannot be read easily by an observer with normal eyesight, at a distance of 20 inches." This is a good working rule easily put into practice.

School walls should be optically matt, not glossy. Windows should be located to the left of the pupils, carried up to the ceiling and not obscured by needless decorations. No desk in a schoolroom, further from the window wall than twice the height of the top of the glass above the desk surface is likely to get sufficient light. The ceiling is best white, and the wall around

the blackboard of a slightly darker shade than the rest of the wall surface. Furniture, desks, and other flat surfaces should be of a light shade and not too highly polished.

As to whether gas or electricity is the artificial illuminant of choice in a schoolroom, the following are the chief points to consider. With electricity the heat production is low, there are no combustion products to add to air pollution, it requires little attention and its efficiency does not deteriorate rapidly. With gas the burners heat the atmosphere, and although the modern inverted gas mantle type of burner is very efficient, yet a certain amount of care is required in its use and the products of combustion are not negligible.

Table 23.

DEFECTIVE HEARING.—PERCENTAGE DEFECTIVE.

	Entrants	Intermediates	12 year old	Leavers	No. of Children inspected
Boys	0·9	0·5	1·2	2·4	3118
Girls	0·7	0·8	2·1	3·7	3158

COMPARISON WITH 1925.

	1926		1925		1926	1925
	Male	Female	Male	Female	No of Child'n Examined	No. of Child'n Examined
Entrants	0·9	0·7	0·1	0·5	6276	5159
Intermediates	0·5	0·8	0·6	2·8		
12-Year-Olds	1·2	2·1	0·7	4·4		
Leavers	2·4	3·7	0·5	4·0		

In both years defects increase with age, and are more common in girls than boys.

The most usual cause of deafness in children is chronic ear discharge, brought on by an inflammation of the middle ear. Adenoids are another cause, whilst inasmuch as they may bring about middle ear disease, they exert their effect in two ways.

I would like to draw attention to the practice of syringing discharging ears. The concensus of opinion among ear, nose and

throat specialists, is that this is a risky procedure if carried out in an inexperienced or careless manner. Grave and permanent damage to the delicate ear mechanism may be inflicted in this way. It cannot be too forcibly urged upon parents that discharging ears, unless properly treated, may cause serious, and possibly dangerous, illness.

Speech Defects.

Table 24.

Speech Defects.—Percentage Defective.

	Entrants	Intermediates	12 year old	Leavers	No. of Child'n Inspected
Boys	1·1	1·5	0·7	0·7	3118
Girls	0·8	0·8	0·6	0·5	3158
Totals	1·0	1·1	0·6	0 6	6276

Comparison with 1925.

	1926		1925	
	Male.	Female.	Male.	Female.
Entrants	1·1	0·8	0·2	0·0
Intermediates	1·5	0·8	0·8	0·9
12-Year-Olds	0·7	0·6	0·1	0·3
Leavers	0·7	0·5	0·5	0·2
Totals	4·0	2·7	1·6	1·4

The incidence of defective speech in children examined in 1926 was greater than in 1925.

The "Stammerers' Class" was resumed under the charge of Miss Drummond during the winter term. A more detailed account of the excellent results achieved is given later in the Report. (See page 90).

Teeth.

Table 25.

1926.

	Entrants				Intermediates				12 year old group				Leavers			
	M.		F.		M.		F.		M.		F.		M.		F.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Perfect set of Teeth	203	21·9	209	22·4	109	16·7	108	19·0	340	41·8	446	46·5	272	37·9	268	38·5
One to Three Decayed.....	314	33·5	300	32·1	296	45·3	269	47·4	361	44·3	413	43·0	351	49·0	344	49·4
Four or more Decayed.....	416	44·6	425	45·5	249	38·0	191	33·6	113	13·9	101	10·5	94	13·1	84	12·1
Totals ...	933	...	934	...	654	...	568	...	814	...	960	...	717	...	696	...

1925.

	Entrants				Intermediates				12 year old group				Leavers			
	M.		F.		M.		F.		M.		F.		M.		F.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Perfect set of Teeth	191	27·6	209	30·9	158	31·7	173	39·5	453	49·8	460	55·2	343	58·3	308	57·3
One to Three Decayed.....	213	30·7	148	21·8	115	23·0	106	24·2	374	41·2	306	37·4	222	37·7	191	35·6
Four or more Decayed	289	41·7	320	47·3	226	45·3	159	36·3	81	9·0	53	6·4	23	4·0	38	7·1
Totals	693	...	677	...	499	...	438	...	908	...	819	...	588	...	537	...

The above Tables relate to the findings of the medical inspectors at routine examinations, and have no relation to the findings of the School Dentist. There is, however, a similarity in the findings, but, as might be expected, the examination of the School Dentist is more stringent and consequently the percentages of defects in her Tables are higher than in the above. Cases who, in the opinion of the examining medical officer required attention, were referred on to the Dental Clinic.

In a total of 6,276 children inspected between the ages of 5 years and 14 years, 31.15% had a perfect of teeth, 42.19% had from 1 to 3 decayed, and 26.66% had 4 or more decayed teeth, *i.e.*, 68.85% of the children were in need of dental treatment and in 26.66% the need was urgent.

The percentage of perfect sets of teeth became progressively greater as age advanced. The value of conservative dental treatment is hereby illustrated. In all the groups the girls had rather better teeth than the boys.

The figures furnished by the School Dentist for rather different groups of children show that 3,935 were advised dental treatment, and that only 480 had perfectly sound dentures. The dental examination is carried out by means of a mirror and probe, so that the findings are naturally more accurate than those obtained in ordinary routine medical inspection. In consequence of this, I have instructed the medical inspectors to concentrate more on the other medical details, but to refer to the dentist children whose mouths are obviously in a bad state and urgently in need of attention. It is duplication of work for the medical inspectors to make a thorough examination of the mouths of the children they examine, as the same children—with the exception of the 13—14 year old group—will be examined by the School Dentist during her routine examinations.

Reference to the 1925 Report of the Chief Medical Officer of the Board of Education shows that in a total of 2,038,988 children inspected by dentists, 67.8% were found to require treatment. The figure for Blackburn in 1925 was 71.1, and in 1926 85.4. The teeth of school children in this town are therefore seen to be rather worse than the average.

This subject is dealt with more fully in the section devoted to the work of the School Dentist. (See page 65.)

Table 26.

RICKETS AND DEFORMITIES.

	Entrants		Intermediates		12 year old		Leavers		Totals		Percent 1926		Percent 1925	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Evidence of—														
Slight Rickets	23	20	35	20	32	19	43	29	133	88	4·2	2·8	4·2	3·0
Marked Rickets ...	2	1	2	5	—	2	—	1	4	9	0·1	0·3	0·08	0·1
Spinal Curvature ...	8	6	17	12	27	20	35	18	87	56	2·8	1·8	2·0	1·7
Other Deformities ..	9	10	8	4	6	15	9	5	32	34	1·0	1·1	0·7	0·2
	42	37	62	41	65	56	87	53	256	187	8·2	6·0	7·0	5·0

As Rickets is essentially a disease of early life, it is encouraging to notice that the Entrant group shows the best figures. Active rickets is very rarely met with in children of school age, but it leaves behind it signs such as curved bones, peculiar-shaped cranium, which persist throughout life.

Spinal Curvature, however, is in a different category, and the increasing amount, as school age advances, points to the effects of faulty habits of posture. The type of desk exerts an influence upon the normality or otherwise of a child's spinal column. During school life this bony pillar is most flexible. Persistent faulty posture leads to excessive curvature which is difficult to correct in later years.

Table 27.

SUMMARY OF THE FINDINGS AT ROUTINE EXAMINATIONS.

(Percentages).

Condition	Entrants		Inter-mediates		12 year olds		Leavers		All Groups	
	M	F	M	F	M	F	M	F	M.	F.
Uncleanliness (Percent. clean)—										
Head	95·2	73·2	90·6	53·4	93·2	64·0	94·3	61·8	93·5	64·4
Body	97·9	96·9	91·0	93·0	91·9	95·3	92·6	96·1	93·3	95·3
Clothing (satisfactory)	98·6	99·5	94·5	95·6	92·8	95·1	92·5	95·3	94·6	96·4
Footgear (satisfactory)	99·5	100·0	99·0	99·8	97·7	99·3	97·7	99·4	98·5	99·6
Nutrition (normal)	94·2	91·5	84·3	83·1	82·8	79·4	82·4	84·3	85·9	84·6
Circulatory System (defts)	2·2	2·9	4·8	4·8	2·9	5·1	3·7	3·9	3·4	4·2
Pulmonary System (defects : not T.B.) ..	2·3	1·8	2·4	1·9	0·7	0·9	0·5	0·5	1·5	1·3
Defects of Nose & Throat	34·9	30·7	40·4	30·8	31·2	29·4	25·9	26·3	33·1	29·3
Enlarged Cervical Glands	18·4	18·7	35·9	35·5	16·7	18·1	12·7	14·5	20·9	21·7
External Eye Disease	3·8	3·8	2·6	3·3	4·5	2·6	3·2	4·1	3·5	3·4
Defective Vision	...	...	15·6	16·1	16·8	18·1	18·4	19·4	16·9	17·9
Defective Hearing	0·9	0·7	0·5	0·8	1·2	2·1	2·4	3·7	1·2	1·8
Speech Defects	1·1	0·8	1·5	0·8	0·7	0·6	0·7	0·5	1·0	0·7
Dental Disease (More than 4 decayed)	44·6	45·5	38·0	33·6	13·9	10·5	13·1	12·1	27·4	25·4
Skin Disease	2·0	2·0	1·8	0·9	1·1	1·2	2·1	1·7	1·7	1·4
Dull and Backward	0·5	0·3	0·9	1·2	1·6	1·4	2·1	1·1	1·3	1·0

The above Table gives in a concise tabulation the results of findings at Routine Medical Inspections. Defects of the Nose and Throat, Dental Disease and Enlarged Cervical Glands are the most usual defects found. These three groups bear a close relationship to one another. Next comes visual defects with a percentage somewhat alarming in view of the nature of the disability.

Table 28.

NUMBER OF CHILDREN EXAMINED AT ROUTINE INSPECTIONS AND FOUND TO REQUIRE TREATMENT.

(Excluding Uncleanliness and Dental Disease).

Group	No. of Children inspected	No. referred for Treatment	Percentage referred for Treatment	1925
Entrants	1867	308	16·5	16·5
Intermediates	1222	287	23·4	18·7
12-Year-Olds	1774	505	28·4	20·8
Leavers	1413	434	30·7	17·9
	6276	1534	24·4	18·6

The number of defects requiring treatment increased with school age. This is an expected result and must be accounted to the effect of the wear and tear of school life and the passage of years. Additionally, in a certain number of children, parental indifference or scepticism has resulted in defects found in the Entrant group remaining untreated. Initial slight defects, if unremedied, often lead to further defects as the child grows. Adenoids are a case in point, so also are decayed and septic teeth.

GOITRE.

Observations were made during the year upon the presence of thyroid enlargement (Goitre) in school children examined at routine medical inspection. The following Table summarises the findings :—

Table 29.

	Girls	Boys	Incidence of 1000 scholars examined	
			Girls	Boys
Slight Enlargement	117	14	37·0	4·5
Moderate Enlargement	17	3	5·4	0·9
Considerable Enlargement ...	1	—	0·3	—
	135	17	42·7	5·4

Section 3.

Table 30.

INFECTIOUS DISEASES.

NOTIFIABLE DISEASES OCCURRING IN THE ELEMENTARY SCHOOLS OF THE BOROUGH.

School	Scarlet Fever		Diphtheria		Erysipelas		Others			
							Pneumonia		Encephalitis Lethargica	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Accrington Road	1	1	2	...	...	...	...	...	...	...
Audley Range	7	6	...	1	...	...	...	...	...	...
All Saints'	1	1	...	...	...	...	...	...	...	...
Bank Top	...	1	...	..	...	...	...	1	...	...
Bangor Street C.	..	...	...	...	...	...	...	...	...	...
Blakey Moor C.	2	1	...	...	...	...	1	...	...	...
Cedar Street	1	2	...	...	...	...	1	...	...	...
Christ Church	3	3	1	1	1	...	...	3	...	...
Emmanuel	1	2	...	...	...	..	...	1	...	...
Furthergate	...	1	1	1	...	...	...	...	..	...
Four Lanes End	4	5	...	...	...	...	...	...	...	...
Griffin	1	4	...	...	...	...	...	2	...	...
Holy Trinity	1	2	2	2	...	...	..	...	...	...
Lower Darwen C.	...	...	...	...	...		...	...	...	...
Mill Hill C.	2	5	...	...	..	...	1	...	...	...
Moss Street	1	...	1	...	...	...	...	..	.	...
Maudsley Street	0	2	1	3	...	...	1	...	...	...
C.E. Central	...	1	1	..	...	...	...	...	...	...
Park Road	2	4	...	1	...	...	...	...	...	...
St. Aidan's	2	1	1	...	...	...	...	...	..	...
St. Alban's R.C.	2	4	2	1	...	...	1	1	...	...
St. Anne's R.C.	...	1	...	2	...	...	...	1	...	...
St. Andrew's	3	3	...	...	...	1	...	...	...	...
St. Barnabas'	1	2	...	..	...	...	...	...		...
St. Bartholomew's	2	5	3	6	...	...	...	...	...	...
St. Gabriel's	2	1	...	...	...	...	...	...	...	...
St. James' C.E.	...	...	...	...	..	...	...	...	...	...
St. James' Guide	...	...	...	...	...	...	2	...	...	...
St. James' Black-a-Moor	.	1	...	...	...	...	..	...	..	...
St. John's	5	8	...	1	...	...	...	...	...	1
St. Joseph's R.C.	4	4	..	...	...	...	...	...	...	...
St. Luke's	1	...	...	...	...	...	...	...	.	...
St. Michael's	1	1	1	...	...	...	...	...	...	...
St. Matthew's	1	2	...	1	...	...	...	..	...	...
St. Mary's R.C.	2	2	1	2	...	..	...	...	1	...
St. Paul's	1	1	...	...	...	...	2	...	...	...
St. Stephen's	...	1	1	...	...	...	1	...	...	...
St. Silas'	4	5	4	...	...	...	...	...	...	...
St. Peter's C.E.	...	...	...	...	...	1	...	...	...	...
St. Peter's R.C.	1	...	1	...	...	...	1	1	...	...
St. Thomas'	4	1	...	...	...	...	...	...	...	...
Sacred Heart	2	...	...	...	...	...	...	...	...	...
Wensley Fold	2	4	4	1	...	...	...	...	...	...
Witton Infants	1	...	...	..	..	...	...	...	...	...
	68	88	27	23	1	2	11	10	1	1
Bangor Street O.A.C.	...	...	..	...	...	...	...	...	...	...
Girls' High School	...	2	...	3	...	...	...	...	...	...
Grammar School	...	...	...	...	...	...	1	...	...	..
Convent Notre Dame	...	3	1	..	...	...	...	...	...	...
Park House	...	...	...	...	...	...	1	...	...	...
	...	5	1	3	...	...	2	...	...	...

Table 31.

INFECTIOUS DISEASES NOTIFIED BY TEACHERS, SCHOOL ATTENDANCE OFFICERS, AND OTHERS DURING 1926.

School.	Measles	Whooping Cough	Chicken Pox.	Mumps	Scarlet Fever.	Diphtheria	Erysipelas	Others	
								Pneumonia.	Encephalitis. L'thargica
Accrington Road	11	1	9	8	2	2	...	...	...
Audley Range	3	4	74	30	13	1	...	...	...
All Saints'	2	2	...	2	2	...	...	...	...
Bank Top	...	...	8	2	1	...	...	1	...
Bangor Street C.	5	1	5	...	...	...	...	...	...
Blakey Moor C.	9	1	...	..	3	...	...	1	...
Cedar Street	51	13	12	...	3	...	...	1	...
Christ Church	4	23	15	2	6	2	1	3	...
Emmanuel	1	5	2	1	3	...	...	1	...
Furthergate	3	11	22	17	1	2	...	...	...
Four Lanes End	6	2	2	1	9	...	...	...	...
Griffin	...	2	...	...	5	...	...	2	...
Holy Trinity	6	8	12	4	3	4	...	...	...
Lower Darwen C.	...	...	7	1	...	...	...	...	...
Mill Hill C.	11	6	...	...	7	...	...	1	...
Moss Street	24	13	16	3	1	1	...	...	...
Maudsley Street	1	10	2	1	2	4	...	1	...
C.E. Central	3	...	1	...	1	1	...	...	...
Park Road	2	6	5	...	6	1	...	...	...
St. Aidan's	...	...	2	1	3	1	...	...	...
St. Alban's R.C.	56	25	17	5	6	3	...	2	...
St. Anne's R.C.	3	7	53	4	1	2	...	1	...
St. Andrew's	8	16	45	1	6	...	1	...	...
St. Barnabas'	12	8	4	1	3	...	...	...	...
St. Bartholomew's	1	3	2	...	7	9	...	...	...
St. Gabriel's	7	2	21	3	3	..	...	...	...
St. James' C.E.	24	1	1	14	...	...	...	...	...
St. James'. Guide	3	7	1	1	...	...	...	2	...
St. James', Black-a-Moor	3	...	22	...	1	...	...	...	...
St. John's	120	6	4	7	13	1	...	...	1
St. Joseph's R.C.	1	...	13	8	8	...	...	...	...
St. Luke's	2	4	4	...	1	...	...	...	...
St. Michael's	17	4	16	1	2	1	...	..	...
St. Matthew's	2	...	43	14	3	1	...	...	...
St. Mary's R.C.	3	26	44	...	4	3	...	...	1
St. Paul's	17	2	14	...	2	..	...	2	...
St. Stephen's	3	3	2	7	1	1	...	1	...
St. Silas'	2	...	3	...	9	4	...	...	...
St. Peter's C.E.	52	...	7	1	..	...	1	...	...
St. Peter's R.C.	77	2	6	2	1	1	..	2	...
St. Thomas'	11	1	5	...	5	...	...	...	...
Sacred Heart	5	4	16	...	2	...	...	...	...
Wensley Fold	1	2	2	..	6	5	...	...	...
Witton Infants	7	1	1	1	1	...	...	...	...
	579	232	540	143	156	50	3	21	2
Park O.A.C.	1	2	...	...	...	...	...	...	...
Bangor Street O.A.C.	...	...	...	...	...	...		...	...
Residential O.A.C.	...	...	...	...	...	...		...	...
Regent Street		...	...	...	...	...	...	...	...
Girls' High School	22	4	11	2	2	3	...	...	...
Grammar School	2	...	...	...	...	...	...	1	...
Park House School	...	...	...	...	...	...	...	1	...
Convent Notre Dame	...	...	1	...	3	1		...	...
	25	6	12	2	5	4	...	2	...

A cursory examination of the Tables appended will show how diligent the Teachers are in notifying cases of an infectious nature.

Among the diseases notifiable under the antiquated and incomplete Infectious Diseases (Notification) Act, 1889, Scarlet Fever was the most prevalent. It was widely disseminated throughout the town with exacerbations in the Audley Range, St. John's and Revidge districts. Comparison with 1925 gives the following results :—

Table 32.

	1926	1925	Increase or decrease
Scarlet Fever	161	202	— 41
Diphtheria	54	46	+ 8
Measles	604	820	—216
Whooping Cough	238	407	— 169
Chicken Pox	552	483	+ 69
Mumps	145	462	—317
	1754	2420	—666

The incidence of infectious diseases was not so heavy during the past year as in 1925. Measles, however, was rapidly gaining in momentum towards the end of the year, and though confined to one area of the town, was showing signs of extension as the year closed. It was confining itself, as is usual, to children under seven years of age. Many of the cases occurred in children under five years who were attending " babies " classes.

Investigations carried out during the Measles epidemic in the winter term and beginning of 1927, showed that out of 1,546 cases, 555 or 35.9% were being "isolated" in the living-room. In other words, there was absolutely no attempt at isolation : other children came in and out quite unhindered. Measles is a highly-infectious disease and can be carried by a third person. In towns, the control of Measles is a most difficult problem ; school children of younger years who have not had the complaint, and who are contacts, nearly always develop it. The difficulty is that the most infectious period is the stage of a cold in the head and before the well-known rash has manifested itself.

It is indeed a matter which I would wish to bring forward as strongly as may be. The control of infectious disease among the school children of populous areas is at all times a difficult matter: but it becomes well-nigh impossible unless parents are willing to co-operate with the medical authority, and to carry out faithfully the advice given regarding precautions against infection.

Three infants' departments were closed in December, *viz.*, St. John's, St. Silas's and Cedar Street. In these schools the great majority of children had not had measles, and it was found that the departments were rapidly becoming denuded of scholars. The closure allowed of a thorough disinfection of the class rooms and books, etc.

School closure is not a means of controlling epidemics. The Board of Education recognise this in their instruction to Medical Officers when they state: "The Board will not regard the prevalence of an epidemic of disease as a reasonable ground for the Closure of a School . . . save in exceptional circumstances." These circumstances are left for the School Medical Officer to decide upon. If it were a matter of always treading the smoothest path, so far as the School Medical Service is concerned, then School Closure is the line of adoption, but the function of the service is not this. By closing a school, all effective measures for the detection of cases are lost. For example, a child attends school one day, but is absent the next. The School Nurse is made aware of this absence, visits the home, ascertains the cause and invariably urges that a doctor be called in. Again, a systematic supervision is kept upon class Contacts of cases. Both these valuable aids to control are lost if the school is closed. The multiplicity of ways in which children may meet in a crowded industrial area are such, that the mere keeping them from attending the same school is but a feeble prop upon which to lean. Parents almost always clamour for school closure, but I venture to believe that they are not fully aware of the proved uselessness of this measure in a town. In country districts where children may live at homes widely apart the problem is different.

All the homes of cases of infectious disease coming to the notice of the Department are, as a matter of routine, visited by Sanitary Inspectors of the Health Department; particulars are taken and the cases are kept under supervision until declared free

from infection by their private doctor. In the same way, cases of infectious disease discharged from the Corporation Hospital, although free from infection, are excluded from school for at least 14 days after discharge, and are periodically visited in the interim.

VACCINATION.

The number and percentages of children examined at routine inspection and found to be Unvaccinated were as follows :—

Table 33.

	Number Examined	Number Unvaccinated	Percentage Unvaccinated	Percentage Unvaccinated 1925
Entrants (Boys)	933	626	67·1	61·3
,, (Girls)	934	615	65·8	59·8
Intermediate (Boys)	654	383	58·6	48·3
,, (Girls)	568	336	59·1	47·7
Twelve-year-old (Boys)	814	490	60·2	38·4
,, ,, (Girls)	960	627	65·2	48·8
Leavers (Boys)	717	341	47·5	34·8
,, (Girls)	696	444	63·8	44·3
Totals	6276	3862	61·5	47·9

The percentage unvaccinated is higher than in 1925. As Small Pox is prevalent throughout the country, this is a disturbing finding. Fortunately the small outbreak of Small Pox in Blackburn during the year was confined to the inmates of an institution and so was under control. Should Small Pox show itself in the school population, I am afraid an epidemic of serious proportions will be the result. Epidemics of Small Pox are very costly and disturbing to a community, though in times of freedom this aspect is not thought of. Also, Small Pox does not confine itself mainly to unvaccinated school children, but a case in an unvaccinated child may be the spark for a conflagration in the general population.

Doubtless as soon as Small Pox does break out there will be an immediate increase in the number of vaccinated children; but it sometimes proves to be too late to wait until infection is close at hand. Recent vaccination is an undoubted preventative against Small Pox. I would like again to give the opinion of the Chief Medical Officer of the Board of Education, expressed in an address

to the Royal Sanitary Institute in Edinburgh, 1925: "Small Pox is now the perquisite of those who elect to have it." In its present form the disease is mild, but this does not mean it will always remain so. All epidemic diseases show waves of increasing and decreasing virulence over periods of years. Small Pox is no exception to this rule.

Section 4.

FOLLOWING UP.

The Work of the School Nurses.

There are 4 whole-time School Nurses who devote their time to the treatment of children at the School Clinics, assisting the Medical Inspector at routine medical inspections, visiting schools for cleanliness surveys, making investigations into cases of infectious diseases, and home visiting for the purpose of "following up" children referred for treatment or observation. This latter is an important branch of a school nurse's duties, and is also an arduous one requiring a high degree of tact, perseverance, and good nature. As far as possible the use of printed notices to parents is being discarded, for too often they are treated as scraps of paper and destroyed or forgotten. Before the treatment advised is sought, the Nurse has usually to call and explain personally the need. In a town, where so many of the mothers go to work, and consequently where attendances at routine medical inspections is small, this work of "following up" assumes important dimensions. Unfortunately, owing to the multitudinous duties of the nurses, and the large school population for which each nurse is responsible—over 4,000—enough time cannot be devoted to this branch. On the average each nurse devotes 6½ days per month to Home Visiting. This is insufficient, but it cannot be improved upon without neglecting other branches of the work. The appointment of an additional school nurse is receiving the attention of the Education Committee.

The formation of a suitable Voluntary Care Committee, composed of competent and enthusiastic workers, working under the supervision of the regular School Medical Staff, would be of great value. Such a Care Committee could profitably work in conjunction with the Juvenile Employment After-Care Committee.

Table 34.

THE WORK OF THE SCHOOL NURSES.

	No. 1 District	No. 2 District	No. 3 District	No. 4 District	Totals
Visits to Schools re Cleanliness:					
Visits to Schools	82	61	91	62	296
Visits to Departments	84	62	113	69	328
No. of Children Inspected	6606	3759	5657	5592	21614
No. of Children found Unclean	1845	1101	1789	1124	5859
No. of Children with Skin Complaints	74	86	105	28	293
Visits to Schools re Infectious Diseases:					
Visits to Schools	6	9	3	7	25
Visits to Departments	6	9	3	7	25
No. of Children Inspected—					
Scarlet Fever	226	...	85	136	447
Diphtheria	9	51	...	126	186
Other Infectious Diseases	26	325	...	61	412
Total Children Inspected	6867	4135	5742	5915	22659
Home Visiting by School Nurses:					
Concerning—					
Uncleanliness	274	58	335	280	947
Minor Ailments	112	50	57	64	283
Defects found at Routine Inspections	777	500	798	512	2587
Totals	1163	608	1190	856	3817

The Districts numbered 1, 2, 3, and 4 contain the following schools :—

DISTRICT NO. 1.—Regent Street Special, St. John's C. of E., St. James C. of E., Four Lanes End, Bangor Street, Cedar Street, St. Michael's, St. Gabriel's, St. Alban's, Holy Trinity, Bangor Street O.A., St. Alban's Higher Grade. SCHOOL POPULATION = 4,000.

DISTRICT NO. 2.—Blakey Moor, St. Paul's, St. Anne's, St. Barnabas', Wensley Fold, St. Silas', Sacred Heart, Bank Top, Witton Infants', St. Peter's C.E., St. Mary's, St. Luke's, Corporation Park O.A. SCHOOL POPULATION = 4,686.

District No. 3.—C.E. Central, Park Road, Christ Church, All Saints', Emmanuel, St. Aidan's, Mill Hill C., St. Peter's R.C., Griffin, St. Bartholomew's, Lower Darwen, St. Andrew's. School Population=4,522.

District No. 4.—Maudsley Street, St. Matthew's, St. Thomas's, St. Joseph's, Audley Range, St. James' (Guide), St. James' (Blackamoor), Furthergate, Accrington Road, St. Stephen's, Moss Street, Accrington Road O.A. School Population= 4,149.

The above Table shows that 21,614 children were inspected by the nurses in the schools for cleanliness, and 3,817 visits were paid to children's homes. Both these figures are smaller than they should be in a really comprehensive scheme. For a town with a school population of over 17,000 children, at least 45,000 inspections should have been made in the schools, and the home visits should have been double the number actually made. This deficiency must not be placed to the discredit of the nursing staff. They have done their best under difficult conditions. With the present system of organisation the nurses are required to do various necessary duties which consume much time and which might be spent perhaps more profitably. The appointment of an additional nurse who would devote her whole time to Clinic duties would relieve the other nurses and enable them to spend more time in the homes of the children and in the schools.

In addition to the above work, the School Nurses assisted the Medical Inspectors in the schools on 339 sessions, and at the Inspection Clinic on 111 sessions; the Ophthalmic Surgeon on 84 occasions; and at the Minor Ailments Clinics on 791 occasions.

It is pleasing to record that the Home visits for 1926 showed an increase of 666 over last year's figures. The number of examinations for cleanliness in the Schools, however, dropped from 21,988 to 21,614.

The nurse responsible for No. 2 District was off duty for two months owing to sickness, and the nurse for No. 4 District was away 4 weeks owing to an accident. This accounts for the smaller figures of work in these respective areas.

The School Nurses do not in the ordinary course of events, assist the Dentist. There is a whole-time dental assistant appointed for this purpose.

Section 5.

TREATMENT.

Minor Ailments.

Table 35.

The Work of the School Clinics.

Summary of work done :—

	New Cases	Re-visits	Totals	Totals 1925
Visits to—				
Minor Ailments Clinics	2591	20594	23185	22426
Inspection Clinics	873	228	1101	1818
Dental Clinic	2866	2170	5036	4900
Remedial Exercises Clinic ..	261	2334	2595	2585
Ophthalmic Clinic	529	618	1147	743
	7120	25944	33064	32472

The above Table gives a summary of the work done at the various Clinics; fuller particulars are available under the sections devoted to each separate branch. The Table is a small one, but its figures show evidences of a very large amount of useful work.

The present arrangements with respect to Clinics is unsatisfactory.

These conditions are, however, to be remedied in the near future. The whole school medical department is to be transferred to premises in Victoria Street, a change which will result in a modern and satisfactory school medical treatment unit.

THE MINOR AILMENTS CLINICS.

Minor Ailments Clinics are held every week day at Victoria Street, and at the Bolton Road premises. At the former in the mornings, commencing at 8-45, and at the latter in the afternoons, commencing at 2 p.m., except on Saturdays, when a morning Clinic is held commencing at 9 a.m. Formerly the Bolton Road Clinic did not open until 3-30, but owing to an increase in the number of cases attending, the time was extended to cope with the

increased work. Two nurses attend the Victoria Street Clinic and one nurse the Bolton Road Clinic. The Assistant S.M.O. attends each morning at Victoria Street in order to see cases referred to him by the nurse, and to advise concerning change of treatment. He attends Bolton Road when the opportunity occurs—usually once weekly. Urgent cases at the latter Clinic requiring to be seen by a medical man, are sent either to Victoria Street or to the Inspection Clinics held in the Town Hall.

The scope of the treatment given is clearly shown by the Table. Medical cases, or cases requiring surgical interference, are referred to their private doctors, or to the Royal Infirmary. The object of the School Clinics is to remedy the minor disabilities peculiar to school children.

Table 36.

Complaint.	1925			1926			Comparison with 1925	
	Cases.	Attend-ances.	Average number of attendanc's per case.	Cases.	Attend-ances	Average number of attendanc's per case.	Attend'ce inc. or dec.	Cases.
Ringworm—Scalp ..	187	3097	16·5	236	3531	14·9	+434	+49
Body	122	1208	9·9	84	746	8·8	−462	−38
Scabies	5	26	5·2	30	95	3·1	+ 69	+25
Impetigo	786	6960	8·8	558	4914	8·8	—2046	−228
Other Skin Diseases	78	485	6·2	88	685	7·7	+200	+10
Minor Injuries	201	1422	7·1	221	1857	7·0	+135	+20
Verminous Head	170	1276	7·5	349	1434	4·1	+158	+179
,, Body	3	5	1·6	2	2	1·0	— 3	— 1
Otorrhœa	103	1195	11·6	59	850	14·4	—345	—44
Other Ear Defect or Disease	174	1026	5·9	298	2454	8·2	+1428	+124
Blepharitis	83	795	9·6	47	597	12·7	−198	—36
Conjunctivitis	31	669	21·6	18	224	12·2	—445	—13
Other External Eye Disease	95	643	6·7	218	2011	9.2	+1368	+123
Miscellaneous	466	3619	7·7	789	4113	5·2	+494	+323
Totals	2504	22426	8·9	2997	23185	7·7	+ 759	+493

Consideration of the figures in Table 36 shows an increase in the total number of cases treated of 493 and an increase in the attendances made of 759. The greatest individual cause of this increment was Ear disease other than Otorrhœa, and this was closely followed by external Eye disease. The number of cases of Impetigo dropped considerably, as also did cases of Conjunctivitis and Ringworm of the Body; there was, however, an increase of 49 in the cases of Ringworm of the Scalp.

The most intractable disability in 1926 was ringworm of the scalp; next came Otorrhœa and then Blepharitis and Conjunctivitis.

Ringworm of the Scalp is a great cause of repeated attendances before cure is attained. This affliction is invariably a long-drawn-out affair when chemical treatment alone is relied upon. From my experience of this method and of the X-Ray method, I can say, without hesitation, that the latter is almost invariably the more rapid, the more efficient and the least "messy." The one proviso necessary is that the procedure must be carried out by someone experienced in X-Ray work. In competent hands the method is as harmless as the drug treatment, and far less tedious both for patient and parent. The loss of school time is also less. I would advise that the question of making this method of treatment available for Blackburn children is one which merits careful consideration. Two consecutive negative microscopical examinations of the hair are required before a cure is pronounced. It is impossible to say, with certainty, that ringworm is absent in some cases without resource to the microscope. This naturally means increased work for the staff, but the results obtained are more reliable. It is not sufficiently appreciated what an enormous loss of school time is caused by this complaint.

I would urge parents and teachers to impress upon children the importance of wearing only their own hats and caps, and not indiscriminatingly exchanging them.

A weekly inspection of the scalp by the parent, and the immediate seeking of advice as to any "scurviness" or "roughness" that may be present, would be a valuable prophylactic measure. The most troublesome cases of Ringworm are those in which treatment has been delayed or improperly applied.

Impetigo remains the commonest cause of attendance at the Minor Ailment Clinic. The origin is obscure, though uncleanliness plays a part. Impetigo seems to occur in waves, and most cases are seen in dry, windy weather, especially at the two extremes of the year. It is easily treated and soon gets well if efficiently looked after. It is very infective; scratching the original sore will cause a widespread eruption, which manifests itself in those situations reached by the child's fingers. Impetiginous sores in the middle

of the back are very rare. The commonest sites are the face, head, knees and thighs.

Otorrhœa was another condition difficult to cure. Zinc ionization has been proved to be the most efficient mode of treatment, and provision will be made for this specialised treatment when the new School Clinic premises are organised.

Conjunctivitis and Blepharitis are both troublesome complaints. Reliance has, in these two conditions especially, to be placed upon carrying out of treatment at home. As the procedures necessary are somewhat uncomfortable, perhaps the natural reluctance of parents to cause pain to their children has some bearing upon the protraction of the complaint.

It is seen that the average number of attendances per case for all disabilities treated is rather less than in 1925. This indicates a saving in loss of school attendances, and is a figure which the Clinics aim at bringing as low as possible consistent with a proper standard of efficiency.

The Table appended below gives a list of the schools sending cases to the Clinic, and the number of scholars therefrom. Schools situated on the outskirts of the town, as might be expected, send fewer cases. The decision in a court of law that a teacher is liable for damages should a child be injured whilst carrying a message during school hours, naturally makes a head teacher very chary of sending young children considerable distances through busy streets. If older children are deputed to accompany the younger ones, a loss of school attendance results, and this again reacts upon the teacher. One central Clinic can only fulfil its entire function if some method of collecting the children from the outlying schools can be initiated.

Table 37.

INDIVIDUAL CHILDREN WHO ATTENDED THE MINOR AILMENTS CLINIC DURING 1926.

	Males	Females	Total	% of School Population	1925
Accrington Road	26	9	35	7.8	4·83
Audley Range	12	12	24	6·4	6·65
All Saints'	61	45	106	55·4	62·21
Bank Top	27	50	77	21·2	15·96
Bangor Street	14	12	26	5·9	8·23
Blakey Moor C.	33	18	51	7·1	6·36
Cedar Street	24	11	35	7·1	6·31
Christ Church	115	89	204	33·2	23·79
Emmanuel	16	30	46	11·7	13·72
Furthergate	29	16	45	12·1	9·22
Four Lanes End	2	...	2	0·7	7·80
Griffin	21	24	45	12·3	9·85
Regent Street (Special)	22	9	31	97·0	93·83
Holy Trinity	61	72	133	28·1	16·42
Lower Darwen C.	3	7	10	7·1	4·25
Mill Hill C.	18	10	28	8·7	10·79
Moss Street	28	30	58	15·6	9·27
Maudsley Street	16	27	43	11·6	9·23
St. Aidan's	22	9	31	10·1	6·03
C.E. Central	11	7	18	3 5	3·27
Park Road	77	80	157	39·3	25·42
St. Alban's	158	86	242	28·2	22·55
St. Alban's H.G.	10		10	7·6	5·03
St. Anne's	120	84	204	27·0	27·71
St. Andrew's	1	3	4	1·5	1·51
St. Barnabas'	75	60	135	26·0	24·70
St. Bartholomew's	6	5	11	4·3	3·78
St. Gabriel's	6	5	11	5·5	2·43
St. James' C.E.	14	9	23	12·3	8·72
High School	...	2	2	...	...
Cherry Tree	...	1	1	...	...
St. John's	67	36	103	16·1	16·01
St. Joseph's	43	65	108	20·3	10·74
St. Luke's	41	44	85	26·7	18·76
St. Michael's	40	42	85	29·1	21·40
St. Matthew's	27	28	55	15·2	6·76
St. Mary's R.C.	93	92	185	34·2	2·72
St. Paul's	62	51	113	92·2	21·34
St. Stephen's	7	7	14	4·0	1·50
St. Silas'	13	9	22	4·8	2·96
St. Peter's C.E.	44	36	80	31·0	32·66
St. Peter's R.C.	22	22	44	9·7	11·13
St. Thomas'	24	47	71	11·5	17·90
Sacred Heart	1	4	5	3·8	2·34
Wensley Fold	9	4	13	4·1	4·67
Witton Infants'	5	1	6	9·7	1·58
St. James' (Guide)	...	5	5	4·7	...
St. James' (Black-a-M'r)	2	...	2	1·9	...
Totals	1526	1315	2841	17·0	14·19

The high percentage of children from Regent Street School is noticeable and illustrates the known fact that children exhibiting lowered mentality are particularly liable to contract minor physical defects.

As compared with 1925 there was an increase in the total number of individual children sent from schools of 375, and a consequent rise in the percentage from 14.19 to 17.

Table 38.

Open-Air Classes.—Attendances at Minor Ailments Clinics.

School.	Males.	Females.	Total.	% of School Population	1925
Corporation Hospital Open Air	1	3	4	12·5	7·48
Park Open Air	19	13	32	61·5	30·00
Accrington Road Open Air ...	1	1	2	7·4	12·00
Bangor Street Open Air	6	3	9	33·3	20·00
Under School Age	6	5	11	...	...
Totals	33	25	58		

The Inspection Clinic.

This Clinic is held on Tuesday afternoons and Saturday mornings. The object of it is to examine (1) Children referred by parents or teachers for special examination. (2) Children sent by the school nurses from the Minor Ailments Clinics, and for whom further medical advice is requested. (3) Children sent by the School Attendance Officers for an opinion as to their fitness or otherwise to attend school. All children who have suffered from infectious disease, and for whom no certificate has been obtained from their private doctor, are inspected before they are allowed back into school. (4) Children referred for examination under the provisions of the Education Act 1918, Sec. 15. (5) Cases in whom the School Medical Inspector desires to make a more thorough examination than is possible during routine school work. (6) Cases referred under the Juvenile Employment regulations.

The following Table gives the number of new cases who attended and the source of their reference. The number of Inspection Clinics held in 1926 was 91.

	1926	1925
School Nurses	468	834
School Attendance Officers	137	169
Parents	251	169
Teachers	8	94
School Medical Inspector	9	6
	873	1272

Adenoids and Enlarged Tonsils.

Adenoids are overgrowths of normal, protective lymphoid tissue situated in the naso-pharynx. This tissue has important functions to perform as has already been explained. Overgrowth is brought about by chronic catarrhs and dirt irritation, the result of the neglect of personal hygiene. Children who have not been taught the use of pocket-handkerchiefs, and whose nose is consequently stuffed up with mucus and dirt, have perforce to use their mouths for breathing purposes. The post-nasal lymphoid tissue loses its stimulus of cold air passing over it and becomes flabby, congested and ultimately hypertrophies. The incorrect habits of breathing cannot be corrected when once Adenoids are present until they have been removed, as they constitute an obstruction blocking the posterior ends of the nasal passages. When once they have been removed it is most essential that the child be taught to use the nose for the purpose of aspiration. If this is not done the operation of removal is a waste of time and energy.

The influence of adenoids upon the physical and mental development of a child is more profound than the presence of enlarged tonsils. The normal natural history of the tonsils is a gradual diminution in size as age advances. All enlarged tonsils do not necessarily require removal. It is the enlarged irregular tonsil, with its surface studded with crypts, from out of which may be expressed inspissated and evil-smelling material consisting of decaying food, mucus and organisms, that is dangerous and requires removal. The whole-

sale removal of moderately-enlarged but otherwise healthy tonsils is a procedure to be condemned, and this practice is not followed in Blackburn. Children with enlarged unhealthy tonsils and adenoids, especially those who are mouth-breathers and whose past history consists of a succession of catarrhs and sore-throats, are referred for operative measures. When these have been carried out the children are submitted to a three weeks' training in breathing exercises and correct habits of respiration.

At the commencement of 1926 there were 126 children awaiting operation and for whom the necessary parental consent had been obtained.

During 1926, 145 cases of enlarged tonsils only, 17 cases of adenoids only, and 103 cases of enlarged tonsils and adenoids, a total of 265 cases, were recommended for treatment. In 237 cases the Local Education Authority was requested to arrange for the operation; of these the parents of 66 expressed a desire for the operation to be performed at Queen's Park Hospital, and 171 at the Blackburn & East Lancashire Royal Infirmary.

There were 11 operating days arranged at the Royal Infirmary, *viz.*, 30th January, 27th February, 27th March, 8th May, 3rd July, 10th July, 17th July, 28th August, 20th November, 4th December, and 18th December. One hundred and fifty children were examined at the Inspection Clinic prior to the operation, and 10 others were invited to attend, but failed to do so. The parents of 5 children refused at the last moment to allow their child to have the operation, after having previously given a signed consent; and 5 others were deferred, on account of the children being unfit. Three of these children were re-examined later and passed for operation, and the other two will be dealt with in due course.

One hundred and sixty-seven children were operated upon at the Royal Infirmary. In one case detention in the Hospital, after the operation, was necessary; 137 were conveyed home in the ambulance a few hours after the operation; and the remainder—30—went home in taxis, etc., obtained by their parents.

There were five operating days at the Queen's Park Hospital, viz. : 26th May, 26th August, 9th September, 18th November, and 9th December. Fifty-three children were examined at the Inspection Clinic prior to the operation, and 9 others were invited to attend but failed to do so. One case was deferred, having contracted Whooping Cough. 54 children were operated upon and 2 died under anæsthetic. Ten children were admitted to the Hospital but were not operated upon owing to a death in the batch of cases being dealt with at that Session. Five of these children were operated upon subsequently, and the remainder will be dealt with at an early date.

All the children operated on were admitted to the Institution the day before the operation and discharged two days after, with the exception of one boy who was detained in the Institution for 14 days.

Of the 54 operated on 48 attended the Remedial Exercises Clinic.

As previously mentioned, appointments are made for children to be examined 14 days after operation, and they are referred for a course of breathing exercises in the Remedial Exercises Clinic—a most important item of after-care; 152 out of 167 followed this course.

Eight children who were on the Royal Infirmary school waiting list obtained "out-patient recommendations" and were dealt with as ordinary Infirmary patients. One child was operated upon by the private medical man, whilst 30 others failed to present themselves when invited to have the operation.

At the end of the year 59 children were awaiting operation at the Royal Infirmary and 28 at Queen's Park Hospital. Thirtysix children received other form of treatment; 18 at the Clinic and 18 at home.

TREATMENT OF VISUAL DEFECTS.

Dr. Wishart, the part-time specialist officer in charge of this department of school medical work, holds two sessions weekly, on Tuesday and Friday afternoons, at the Victoria Street Clinic. The Clinic was held on 80 occasions, as compared with 78 in 1925.

Table 39.

	Number of Defects Dealt With.				Spectacles Prescribed.		Spectacles Obtained.	
	Under the Authority's Scheme.	Submitted to Refraction by Private Practitioner or Hospital apart from the Authority's Scheme.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.
Errors of Refraction	817	3	8	828	723	11	469	11
Other Diseases or Defects of the Eyes	28	...	...	28	...	...	...	...
	845	3	8	856	723	11	469	11

A considerable increase in the number of cases dealt with is recorded in 1926; 102 more children were referred for treatment and 50 more attended the Ophthalmic Clinic. One hundred and forty more prescriptions for glasses were issued.

During the year 676 children with defective vision were referred for treatment, and there were 167 cases outstanding from 1925. 529 of the new cases attended the Authority's Ophthalmic Clinic, and in addition 278 children paid re-visits to the Clinics to ascertain whether or not their spectacles required changing.

The number of children referred to the Clinic and awaiting examination at the end of 1926 was 77. In addition, 39 children with defective vision left school during 1926 without having obtained a prescription. These cases were referred on to the Juvenile Employment After-Care Committee.

During the year 723 prescriptions were issued at the Clinic; 436 were for children who had not worn glasses previously, and 287 were for a change of glasses.

The following Table gives in greater detail particulars of the 524 new cases examined, and who were discharged after completion of treatment.

Table 40.

Defect	Number	Percentage
EYE DISEASES:		
Blepharitis	3	10·7
Phylctenular Conjunctivitis ...	2	7·1
Nebulæ (Corneal)	16	57·1
Cataract (Congenital)	1	3·5
Other Eye Diseases	6	21 6
	28	
EXAMINED FOR REFRACTIVE ERRORS:		
Emmetropia (Normal Vision)..	32	6·4
Simple Hypermetropia	85	17·1
Hypermetropic Astigmatism ..	153	30·8
Mixed Astigmatism	78	15·7
Myopia	95	19·1
Myopic Astigmatism	53	10·9
	496	
Total	524	

Two cases of eye disease also suffered from errors of refraction and are included in both sections of the Table.

Forty-nine of the above-mentioned children suffered from convergent squint and three from divergent squint; a percentage of 9.9.

SERIOUSLY DEFECTIVE VISION.

In 42 of the children for whom glasses were prescribed at the Clinic, the error of refraction was over five dioptres, a very serious amount.

It is seen that 28 cases were for eye defects other than refractive errors. Of the 496 cases of refractive errors, 153 were cases of Hypermetropic Astigmatism (30.8 per cent.). This error is

always the most usual form in school children and tends to become aggravated by school work if left untreated. Children exhibiting higher degrees of refractive errors amount to 8.0 per cent. of the whole.

Under the Authority's scheme there is no obstacle, financial or otherwise, to obtaining spectacles. There is consequently no valid reason why school children needing glasses should not obtain them. In some the defection is one of parental inertia, in others the parents object to their children wearing spectacles. This attitude is difficult of comprehension. There are always to be found people who object to any suggestions that may be put before them, and continue to persist in their objection, although, in most cases, no reasons are put forward. Occasionally one hears that a parent does not consider his child needs spectacles, although a careful examination of the child by an ophthalmic surgeon has proved the need.

Children coming under the category of dull and backward are not infrequently found to have an error of refraction. Of all the organs of special sense the eye is the most important, and too much attention cannot be given to see that it functions adequately and under the best conditions. The later years of school life are the most anxious times, as the eye is growing rapidly at this period.

Another difficulty is to make children wear their glasses when once they have been obtained. Fear of ridicule is the underlying cause of this state of mind. Both parents and teachers should endeavour to encourage children to use their spectacles constantly.

THE WORK OF THE SCHOOL DENTAL DEPARTMENT.

I.—Dental Inspection.

I am indebted to Miss Ellina J. B. Thomson, L.D.S., for the statistical data submitted in this section of my report.

With the exception of 8 sessions devoted to Dental work in connection with Tuberculous patients, and 12 sessions for Dental work under the Maternity and Child Welfare Department, the whole time of the Dental Surgeon has been spent in the examination and treatment of school children,

Table 41.

INSPECTIONS IN SCHOOL BY THE DENTIST.

Age Group	Sex	Number Examined	% all teeth sound	% more than 5 decayed temporary teeth	% No permanent teeth	% Permanent teeth sound	% Permanent teeth decayed
6 year old	B	315	7·9	57·7	28·8	59·6	11·7
	G	319	8·4	60·5	25·7	58·9	15·6
7 year old	B	344	4·6	63·08	10·2	72·4	16·3
	G	297	6·7	62·3	9·4	63·6	30·3
8 year old	B	334	5·09	55·09	9·8	52·7	37·4
	G	308	3·2	53·2	...	52·2	47·7
9 year old	B	379	4·7	43·0	...	44·3	55·9
	G	356	5·06	33·9	..	40·1	59·5
10 year old	B	387	9·8	24·3		41·9	58·1
	G	439	10·2	20·7	0·2	41·5	58·2
11 year old	B	379	10·3	11·9	..	36·1	63 9
	G	422	16·8	7·5	...	37·4	62·5
12 year old	B	402	16·6	7·7	...	30·1	69·9
	G	415	16·8	2·6	...	27·0	73·0
Boys		2540	8·7	30·06	6·2	47·3	46·3
Girls		2546	10·2	31·1	4·3	44·3	51·6
Total, 1926		5086	9·4	33·6	5·3	45·8	49·03
Total, 1925		5085	6·47	43·20	9·58	43·17	46·22

Table 42.

	1926.	1925.
Total number of Children inspected	5086	5085
No. with dental caries	4606—90.5 %	4755—93.51%
,, advised to have dental treatment	3935—85.4 %	3656—71.1 %
,, not requiring immediate treatment	671—14.6 %	1099—21.61%
,, of parents present at inspection	200— 3.9 %	85— 1.67%
,, of consents for treatment at clinic	2002—50.8 %	1742—47.7 %
,, who prefer private treatment	83— 2.09%	164— 4.48%
,, who refused treatment	677—17.2 %	635—20.1 %
,, of others, no definite decision	1258—31.9 %	1115—30.5 %

From the above Tables it will be seen that practically the same number of children were inspected in the schools this year as in 1925, viz., 5,086.

By the end of September routine inspection and treatment was carried out in the 16 schools left over from 1925; that meant that in 21 months inspection and treatment was carried out in all the schools in the borough. A new scheme was then introduced to include the examination of children who would be aged 6, 7, 8, 9, 10, 11 and 12 years respectively in 1927. So two new age groups were added – the 1920-21—and the 1913 and 1914 were removed. With the present staff this scheme cannot possibly be completed

until 1928. Up to the end of the year routine inspection and treatment had been carried out in four schools—38 schools being left over.

Table 41 is interesting in showing the deterioration of the permanent teeth as age advances from six years old—when one would expect the first permanent tooth to be in position. The deterioration is most rapid during the following three years. Taking into consideration both the temporary and the permanent sets, the teeth according to the table are worst at 10 years of age.

The effect of Dental Treatment is seen in the increasing percentage of children with all teeth sound. On the whole figures the girls show a slight superiority over the boys, though the girls show a greater percentage of decayed permanent teeth than the boys.

This year there is a slight improvement in the percentage of children with no dental caries, but the percentage of those advised to have treatment has increased from 71% to 85.4%. The percentage of consents for treatment was 50.8, against 47.7 in 1925. Refusals were 17.2%, as compared with 20% in 1925; while the parents gave no definite decision in 31.9% as compared with 30.5% in 1925. These latter figures might be improved upon if it could be made certain that the parents actually received the notices from the school. The notices are given to the children to take home to their parents, and it seems as if some of them took care to lose the notice before reaching home. In some cases the children are left to decide whether they will submit to treatment. This is an abrogation of parental duty which can have only one effect—a weakening of parental influence which will ultimately work to the physical and moral detriment of the child.

Table 43.

REFERRED FOR TREATMENT—AGE GROUPS.

Sex	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.
Boys	196	244	278	328	313	303	310
Girls.....	200	231	266	291	336	321	318
Total.....	396	475	544	619	649	624	628

Table 44.

TREATMENT—AGE GROUPS.

Sex.	5 years.		6 years.		7 years.		8 years.		9 years.		10 years.		11 years.		12 years.		13 years.		14 years.		Totals.
	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	Routine.	Casuals.	
Boys		97	113	100	101	70	103	67	129	60	140	79	92	78	123	84		100		25	1561
Girls		98	98	111	105	82	125	68	148	61	150	85	130	78	192	94		111		26	1762
Total		195	211	211	206	152	228	135	277	121	290	164	222	156	315	178		211		51	3323

Table 45.

II.—Dental Treatment.

	Number of Half-days Devoted to Inspection.	Number of Half-days Devoted to Treatment.	Total Number of Attendances made by Children at the Clinic.	No. of Perma'nt Teeth		No. of Temp'ary Teeth		Total Number of		No. of Administrations of General Anæsthetics.	No. of Administrations of Local Anæsthetics.	No. of other Operat'ns		Dressings.	Root Treatments.
				Extracted.	Filled.	Extracted.	Filled.	Extractions.	Fillings.			Permanent.	Temporary.		
												Scal-ings			
Routine	63	347	3391	664	612	3362	7	4026	619	2	2737	76	...	259	17
Specials	...	...	1645	452	16	1347	2	1799	18	...	1295	5	...	268	...
Total	63	347	5036	1116	628	4709	9	5825	637	2	4032	81	...	527	17

Of the cases shown in Table 45, 3,391 were cases referred from routine inspection and 1,645 were casual cases attending the Dental Clinic. Fillings under the heading of Permanent Teeth can be further sub-divided into Cement Fillings 584, Amalgam Fillings 538, for Routine cases; and 15 Cement, 14 Amalgam in Casual cases.

883 children referred for treatment in 1924 were found in the same or in worse condition in 1926, nothing having been done in the meantime. All these were instances of refusal of treatment or failure to keep appointments.

205 children examined in school in 1924 had been treated by their private dentist.

260 children treated at the Clinic in 1924 were re-inspected in 1926 and found to require no further treatment; while 763 of those treated in 1924 were found on re-examination to require further treatment.

	1926.	1925.
Appointments to attend the Clinic were made to the number of	4228	4819
The number of appointments kept were	3391—80.5%	3810—79%
The number of mouths made healthy were	2381	2347

The Board of Education Table on Dental work will be found on page 121.

Dental Caries is essentially a disease of civilized life. No single cause is at present known, but it has undoubtedly increased during the past century. Diet seems to exert an important influence upon its development, but it is not the only cause. A carbohydrate diet, *i.e.*, starches and sugars, is the most trying one for the teeth; this is due to lactic acid fermentation set up in particles retained between the teeth. The acid formed leads to a surface destruction of the enamel, so destroying its smoothness. Micro-

organisms are enabled to gain a foothold, when formerly they were washed off the smooth surface by the saliva, and they continue more deeply the destruction commenced superficially by the process of fermentation.

As calcium salts constitute the basis of dental formation, possibly the calcium content of the blood has an influence, and so, indirectly, the hardness or softness of the water. Statistics show, apparently, that the harder the drinking water and the lower the infantile mortality of a district, the better are the teeth. My own experience in the South—where the greater number of water supplies are hard, being derived from chalky substrata—is that the teeth are, taken generally, much better formed and less liable to early decay, than in Yorkshire and Lancashire, both counties where the water supplies are soft.

Again, persons suffering from progressive Pulmonary Tuberculosis show a deficient calcium content in the blood; whilst the bad condition of the teeth in these cases is a matter of comment by all Sanatorium medical officers.

The maintenance of a healthy mouth, by efficient cleansing after meals, is the most powerful prophylactic against dental caries. The soundness of the teeth and their ability to perform their functions, is of sufficient importance to warrant the teaching of oral hygiene as a subject of educational routine.

School dentists of experience constantly emphasise the great importance of the temporary dentition, and that too much attention cannot be paid to the "first set," chiefly for two reasons: (*a*) For mastication purposes. The influence of mastication upon the growth of the jaws is a well-recognised fact. The jaws should grow rapidly between 5 and 10 years. (*b*) For preventing irregularities in the permanent set of teeth. Overcrowding of the permanent teeth is common and is brought about by (1) Maldevelopment of the jaws, so that they are not large enough to allow of adequate spacing. (2) Faulty habits of breathing, either with or without the presence of adenoids. (3) Too early extraction of the temporary teeth. Overcrowded and irregular teeth are more prone to suffer from caries than well-formed and well-spaced teeth.

Section 6.

ORTHOPAEDIC WORK.

When a child learns to stand and walk, a great change takes place in the stabilizing and supporting framework of the body. Strain is thrown upon the skeleton and upon groups of muscles which previously were not called upon. It is necessary, therefore, to discourage rather than to encourage the infant to learn to walk early and rapidly. The more prolonged the process can be made, the better the body adapts itself to the altered conditions.

The body is in good position when the head is balanced upright and evenly between the shoulders, the chest is elevated and the breast-bone that part of the body furthest forward; the abdomen is retracted and flat and the curve of the back within normal limits. From a lateral view the hip joints should be in the same perpendicular line as the knees and the ankle joints.

The most usual departure from the above ideal is, the head thrust forward, the chest flattened, and the abdomen prominent, with consequent exaggeration of the lower lumbar curve, and the knees slightly bent. This posture puts undue strain on the neck muscles; the ribs slant acutely and so narrow the diameter of the chest, causing a handicap to both heart and lung action. The muscular stays of the spinal column are called upon to do extra work, whilst the abdominal viscera lack the normal tonic resistance of taut abdominal muscles, and so tend to sag.

Orthopædic defects may be brought about, therefore, firstly by an habitual laxity in the maintenance of a correct posture. Exaggerations of the spinal curve are the most common defects caused in this manner; scoliosis being frequently met with in school children. This is brought on by incorrect sitting posture at desks. Adenoids and enlarged tonsils are a fruitful cause of flat chest and attendant exaggerated dorsal spinal curve.

Secondly, orthopædic defects may be caused by disease. The most destructive diseases in this respect are Tuberculosis, Rickets and Acute Poliomyelitis (Infantile Paralysis). It has been proved beyond any shadow of doubt that bone Tuberculosis is caused in at least 50 per cent. of the cases by milk from Tuberculous cows. The extent of this affliction in our population leads to serious

reflection upon the state of the milk supply. Bone and joint Tuberculosis is a chronic disease, requiring prolonged and skilled treatment, but, if got in the early stages, amenable to appropriate measures.

Rickets is a disease of sunless, overcrowded communities, and is aided by deficiency in diet or wrong feeding. It is an affliction of early childhood and is preventable. Easily combated if taken early and efficiently treated, it may, if neglected, be fraught with the most serious consequences in after adult life. Especially is this so in women. There are many women who have lost their lives in childbirth owing to having suffered from rickets in infancy.

Acute Poliomyelitis strikes suddenly and its first blow is the worst. In this disease groups of muscles are paralysed owing to destruction of their controlling nerve cells. These paralyses give rise to deformities due to the action of the remaining healthy muscles. In health the muscles are held, during waking hours, in a state of tone; that is, every muscle is pulling slightly against its antagonistic group. Should one group become powerless, it is easily surmised that the uninjured group will cause and bring about a disposition of forces leading utlimately—unless measures are taken—to deformity. The paralysis of Poliomyelitis tends for some months after the attack, to get progressively less, and the sooner treatment is put in hand, the better is the end result.

Other less common causes of deformities are congenital malformations, injuries, and some nervous diseases.

One of the essential factors for the successful control of the cripple children problem is the early discovery of crippling defects. Then must follow expert treatment and prolonged skilled supervision. If at the same time as the body is being tended to the mind is also supplied with mental stimulation in the form of lessons, so much the more is the end result likely to be satisfactory.

In Blackburn the scheme for the detection and treatment of crippling defects in school children is fairly comprehensive. This scheme takes into consideration : (1) Detection of crippling defects through the agency of Maternity and Child Welfare Centres, the School Medical Staff, and the Tuberculosis Dispensary. Cases

are brought forward for examination at the Special Orthopædic Clinic held, as a rule, monthly, by Dr. Briggs, at the Duke Street Dispensary. As an indication of the volume of work, extra sessions had to be arranged during the year. Dr. Briggs sees the cases referred to him and advises as to treatment. X-Ray examination for difficult cases is carried out when ordered by Dr. Briggs, at the Corporation Hospital. Cases requiring special surgical or corrective manipulation are admitted by Dr. Briggs to his wards in the Queen's Park Hospital, where they also receive educational facilities. These wards are now recognised by the Board of Education as a Special School.

The Crippled Children's Aid Society does valuable work in supplying needy cases with orthopædic apparatus, and through the medium of its visitors keeps in touch with the homes of the children. The visitors also accompany children, whose parents are unable to attend, to the clinics or the surgical instrument maker.

Prolonged after-care and treatment is carried out by Miss Randall, the Remedial Gymnast, at the Clinic in the Town Hall. From time to time cases under her care are brought forward again to see Dr. Briggs, for advice as to future procedures.

The organisation of the work carried on in the Remedial Exercises Clinic has been changed this year from the plan followed in 1925. During the year 341 children were treated, making 3,712 attendances, as compared with 204 making 2,944 attendances in 1925. Of these 193 were discharged cured ((56.6%) and 101 (29.6%) are still receiving treatment. 13.8% were unaccounted for.

To the apparatus in the gymnasium in 1925 have been added a large wall mirror and a galvanic and faradic apparatus, both of which are proving their usefulness in carrying out the work.

The treatments have been conducted as follows :—

Treatment of Minor Deformities Among School Children.

The following is a brief survey of the measures adopted for improving the various conditions treated in the Remedial Exercises Clinic :—

I.—Post-Operative Tonsils and Adenoids Cases; Mouth Breathers.

(*a*) Various points connected with respiration are explained to the children,

(*b*) Correct posture is taught, to allow of full expansion of the chest and exercises promoting suppleness to make this possible.

(*c*) Exercises to reduce children to a state of breathlessness, so that deep respiration may be put to practical test.

(*d*) Exercises to improve general condition and muscle tone.

II.—Kyphosis, Lordosis, Scoliosis, etc.

These conditions require the following groups of exercises combined in every treatment :—

(*a*) Exercises for loosening joints and obtaining suppleness of muscle system.

(*b*) Exercises to improve muscle tone.

(*c*) Exercises to restore sense of rhythm.

(*d*) Exercises to promote correct co-ordination and balance.

(*e*) Exercises to develop courage, sense of well-being and desire for perfect carriage.

(*f*) Exercises to promote correct respiration.

III.—Pigeon Chest and Harrison Sulcus.

An attempt is made to increase the respiratory powers; and, with counter pressure on the sternum, exercises are given to aid free movement of the ribs during respiration.

I.—Classes for Children after Operation for Removal of Enlarged Adenoids and Enlarged Tonsils.

Owing to the great increase in the number of children in this category referred for breathing exercises, 260 as compared with 96 in 1925, more time has been allotted to these cases than to

minor deformities. And as it is essential that gymnastic treatment be started as soon as recovery from the operation takes place, it has been necessary in many instances to reduce the number of individual attendances to allow of a greater number of children being admitted to the classes. Much leeway has been made up in the operative treatment of adenoids and enlarged tonsils during 1926, and hence the pressure on the Remedial Exercises clinic has been abnormally great.

II.—Classes for Minor Deformities.

It has been necessary to postpone the treatment of some of these cases indefinitely, in order to allow the admission of the more urgent post operative tonsil and adenoid patients. This arrangement is not altogether satisfactory, but owing to the long waiting lists the principle of "the greatest good for the greatest number" has had to be followed.

Children who have not shown benefit by class treatment have had to be left over, unless their condition has been one of urgency. Some of these children exhibit a slow mentality which prejudices their recovery.

The waiting list of children for treatment suffering from minor deformities was 121 on January 1st, 1926, and 259 on December 31st, 1926. It is obvious that at the present time there is more work for the Remedial Gymnast than she is able to perform.

Co-operation of Parents.

The attendance of parents during treatment of their children has again been good; and when it has been necessary to reduce the frequency of the classes, their aid in superintending treatment at home has been invaluable.

Several parents have applied for the admission of their children to the clinic, through the knowledge of the benefits obtained from this form of treatment in certain conditions of abnormality, by children of their friends.

It has been disquieting to find that a larger number of children have had to lose their treatment owing to the parents'

inability to take them to the clinic than in 1925, namely, 39, as compared with 8 the previous year. In addition to this number of children missing their treatment, the vacancies have been lost to parents who might have used the advantages offered to them for their children.

Co-operation with Physical Education in Schools.

As in 1925 there has been close co-operation with the Organiser of Physical Education in the Schools of the borough.

Table 46.

Cases Referred from School Medical Inspection.

Defect.	Under Treatment Jan. 1st 1926	New Cases Admitted during 1926	Total No. Treated	Discharged Cured	Left before Treatment concl'ded	Under Treatment Dec. 31st 1926	Attendances
Breathing exercises	29	231	260	162	30	68	1915
Deformities :—							
Scoliosis	3	3	6	4	...	2	44
Kyphosis	21	21	42	25	5	12	441
Kypho-Scoliosis	2	2	4	...	...	4	45
Pigeon Chest	1	...	1	1	...	...	1
Pigeon Chest & Kyphosis	...	1	1	...	...	1	22
Harrison Sulcus	...	2	2	...	...	2	15
Torticollis	...	...	...	...	...	...	..
Osteo-myelitis	...	1	1	...	....	1	102
Pes Planus	1	...	1	1	...	..	10
General Treatment	1	...	1	...	1	...	...
Total	58	261	319	193	*36	90	2595

*29 cannot be brought owing to parents working.
4 left school to work full time.
1 attending High School, where treatment can be carried out.
1 refused permission by Teacher to leave School.
1 ill and attending private Doctor.

Table 47.

CASES OF SCHOOL AGE REFERRED FROM ORTHOPAEDIC CLINIC FOR REMEDIAL EXERCISES.

Defect	Under Treatment January 1st 1926	New cases admitted during 1926	Total Number treated	Left before Treatment concluded	Under Treatment January 1st 1927	Attend-ances
Spastic Paraplegia ...	3	2	5	0	5	407
Infantile Paralysis ...	3	3	6	2	4	311
Scoliosis	1	0	1	0	0	25
Pes Cavus	2	2	4	0	1	127
Pes Planus	1	0	1	1	0	0
Obstetrical Paralysis	2	0	2	0	1	73
Torticollis	1	0	1	0	0	91
Congenital Club Feet	0	1	1	0	0	50
Rickets	0	1	1	0	0	33
Total	13	9	22	*3	11	1117

*1 cannot be brought owing to parents working.
1 ill and attending private Doctor.
1 receiving treatment privately.

Table 48.

CASES OF SCHOOL AGE REFERRED FROM TUBERCULOSIS DISPENSARY.

Defect	Number of Cases attending Jan. 1st, 1926	Attendances	Left before treatment concluded
Kyphosis	2	16	2

Great difficulty is experienced in getting children who are too young to come alone to attend regularly for treatment, and consequently results in children up to eight years of age are disappointing. It is a little disquieting to find that young children, suffering from deformities, which at this age are remediable, cannot attend because both parents are at work. To counteract this undesirable feature some method of collection of the children would have to be organised, or alternatively, the services of philanthropic persons requisitioned to escort these small people.

Special Orthopaedic Clinic.

I am including the work of this Clinic in this report, although some of the cases treated are not of school age. The bulk, however, are, and the activities are under the auspices of the Education Committee.

During the year 1926 the number of patients examined by the Orthopædic Surgeon increased from 144 to 184, and this necessitated holding extra sessions for several months, the total number being 16 sessions. Of the number of patients who attended, 48 were newly-referred for advice as to their deformities.

In addition to the 13 children of school age and 5 not in this category attending in 1925, 9 children of school age and 6 not of school age were referred by the Orthopædic Surgeon for treatment in the Clinic. Of this number 12 improved sufficiently for treatment to be carried on in their homes, and 18 are still attending the Clinic.

A Dry Cell Galvanic Battery and a dry cell Bristowe Faradic coil, which were added to the Clinic in July, have proved of great value both in the treatment of children suffering from paralysis and muscle weakness, and in testing the reactions of muscles and nerves to electrical stimulation as an aid to diagnosis.

Children who formerly had to attend the Royal Infirmary for this branch of their treatment can now receive the whole of their physical re-education at the Clinic.

Home Visiting.

Owing to extra time being devoted to treating children in the Clinic, less time has been spent in visiting their homes. This branch of the home work has not suffered, however, as a greater number of parents now bring their children to the Clinic from time to time for help as to home treatment. On

several occasions too, such as rambles, picnics and Christmas parties, which the Remedial Gymnast has attended, and to which the children flock almost without exception, a comprehensive survey of the children on the orthopædic list has been obtained, and points requiring attention have been brought to notice.

Splints and Special Appliances.

These were again supplied to necessitous cases through the generosity of the Crippled Children's Aid Association, who also made arrangements for the admission of children to Queen's Park Hospital when this was advised by the Orthopædic Surgeon.

Treatment in the Remedial Exercises Clinic of some of the Conditions Referred from the Special Orthopaedic Clinic.

I.—Infantile and Obstetrical Paralyses.

(1) Deformities are corrected as far as possible by manipulation.

(2) An effort is made by means of passive movements and active exercises to improve the circulation in the part affected.

(3) With aid of electrical stimulation, relaxation and correct contraction of necessary muscles are taught.

(4) With patient in condition of relaxation, weak individual muscles are made to contract as strongly as possible through electrical stimuli.

(5) From a negative position, *i.e.*, without hindrance from force of gravity, the patient is encouraged to contract the various muscle groups.

(6) A short period is devoted each week to general gymnastic treatment of children too seriously disabled to take part in the physical education at their schools. It is of necessity greatly modified and adapted to meet the various conditions of the children taking part in the class.

II.—Spastic Paralysis.

(1) Preliminary stretching of any parts that may have suffered contracture; and teaching powers of relaxation.

(2) Assisted movements in all affected joints.

(3) Exercises to promote correct co-ordination of movements.

(4) Exercises to encourage every-day actions.

(5) Exercises to promote self-reliance and independence.

(6) All the foregoing exercises and movements must be given in such a manner that sense of rhythm is cultivated.

Foot Conditions, such as Corns, Planus, Equinas, etc., and Torticollis.

These cases are generally referred for manipulation and retention in suitable splints or apparatus. If the child is old enough, exercises are taught to contract the weak and stretched muscles, and to overcome the deformity.

Special Orthopaedic Clinic.

No. of Sessions (Inspection Clinic)	16
,, ,, Patients attended	126
,, ,, Patients of School Age Admitted 1926	28
,, ,, Patients over School Age Admitted 1926	6
,, ,, Patients under School Age Admitted 1926	14
,, ,, Referred for X-Ray	10
,, ,, Referred for Special Appliances, Boots, etc.	35
,, ,, Referred for Admission to Queen's Park Hospital	12

Table 49.

SPECIAL ORTHOPAEDIC CLINIC.

Defect	Remedial Exercises Clinic.						Electrical Treatment						Cases under Treatment Jan. 1st, 1927	Home Visiting		Orthopædic Inspection Clinic (Dr. Briggs)			
	Cases under Treatment.	Cases of School Age admitted 1926	Cases Not of School Age admitted 1926	Discharged for Home Treatment Only	Left Before Discharge	Attendances	Cases admitted for Electrical Treatm't. School Age		Cases admitted Not of School Age		Attendance			Orthopædic	Other	Under Treatment Jan. 1st, 1926	New Cases admitted during 1926	Attendances	Under Treatment Jan. 1st, 1927
							Testing	Treatment	Testing	Treatment	Testing	Treatment							
Infantile Paralysis	6	3	1	3	2	321	5	5	1	...	6	102	5	...	...	37	...	27	37
Tuberculous Conditions	...	...	1	..	...	11	...	...	1	1	1	10	1	...	...	45	9	30	52
Rickets	1	1	...	2	...	35	...	...	...	...	...	...	...	...	..	91	15	50	104
Congenital Dislocation	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	7	2	8	8
Club Feet	...	1	1	1	...	99	1	1	...	...	1	3	1	...	...	10	4	9	14
Results of Accidents	...	...	1	...	...	14	...	...	...	...	...	...	1	...	...	6	2	4	8
Severe Pes Planus	1	...	...	...	1	...	...	...	..	...	...	...	...	...	...	1	...	...	1
Pes Cavus	2	2	...	3	...	127	1	1	...	...	1	14	1	.	...	5	3	14	8
Curvature of Spine	1	...	...	1	...	28	...	...	...	...	...		...	...	...	4	2	4	5
Birth Injuries	6	2	2	1	...	655	1	1	...	...	1	10	9	...	...	6	7	23	13
Other Deformities	1	...	...	1	...	91	...	...	...	...	...	...	...	...	...	10	4	15	14
Nothing Abnormal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	7
Total	18	9	6	12	*3	1381	8	8	2	1	10	139	18	194	...	229	48	184	271

* 1 Ill and attending own Doctor. 1 Receiving treatment privately. 1 Cannot be brought.

Table 50.

SUMMARY OF CLINIC ATTENDANCES.

ATTENDANCES :

	Minor Ailments	Ophthalmic Clinic	Inspection Clinic	Dental Clinic	Remedial Exercises	Nose and Throat	Total
1920	1012	407	3433	...	...	...	4852
1921	8527	1287	2995	1658	256	159	14984
1922	10801	959	1806	2801	679	99	17145
1923	11264	666	1465	3886	773	251	18305
1924	17143	692	1407	3593	1699	362	25256
1925	22426	743	1818	4900	2848	111	32846
1926	23185	1147	1101	5036	2595	357	33421

Table 51.

CASES :

	New Cases	Re-Visits	Totals
Visits to—			
Dental Department	2866	2170	5036
Ophthalmic Department	529	618	1147
Minor Ailments	2591	20594	23185
Special Inspection	873	228	1101
Remedial Exercises	261	2334	2595
Nose, Throat, and Ear	188	169	357
	7308	26113	33421

The work of the departments shows an increase in the Minor Ailments, Ophthalmic and Nose & Throat departments; a decrease in the Dental, Remedial Exercises and Inspection Clinic branches.

ULTRA-VIOLET LIGHT TREATMENT.

Beyond the limited range of visible light there stretches away on either side a wide field of invisible rays. At one end are the wireless waves extending from thousands of metres in length to centimetres; then the invisible heat rays leading down to the Solar spectrum, ranging from red at the longer wave end to violet at

the shorter end. Photographic methods established the presence of smaller invisible waves beyond the violet, and these are the Ultra-Violet rays; beyond them, diminishing to infinitesimal size, are the Rontgen rays.

The Ultra-Violet rays have been proved to have an important influence upon the body metabolism. Deficiency of them leading to malnutrition, rickets and other constitutional effects.

The natural source of Ultra-Violet rays is the sun, which has about 1 per cent. of ultra-violet radiation, the atmosphere filtering off the short rays by its higher layers. The higher the place of observation, the lower the temperature, the clearer the atmosphere, the greater the amount of Ultra-Violet rays which reaches the earth's surface. Smoky atmospheres filter off the Ultra-Violet rays, neither can they penetrate through ordinary window glass. This latter point particularly should be remembered and its bearing upon the open window deducted. Bright sunshine coming through a closed window has lost nine-tenths of its value.

As man has, by the products of industrialism, cut himself off from the natural source of these essential rays, he has had to devise means of providing them artificially. This is done by carbon arc lamps and their variations, and the mercury vapour lamp. The former are slower in exerting a therapeutic effect, but are thereby safer. The latter are more powerful and require skill and care in use, otherwise dangerous burns are caused. The practise of unskilled persons purchasing lamps of unknown potentialities and installing them in their homes for personal use, is a risky one and may lead, in more ways perhaps than one, to singed wings.

An Artificial Light Clinic has been established, since November, 1925, in the Corporation Hospital. This clinic contains two Carbon-arc lamps and a Mercury-vapour lamp. During 1926, five school children, referred directly from the School Medical Inspector and not included in figures relating to cases referred from the Tuberculosis department, and cases not attending at or in residence in the Corporation Hospital Open-Air School, were treated. The following Table summarises the results obtained.

No. of School Children treated	5
,, Attendances made	242
,, Exposures given	245
Average duration of exposures	60 mins.
No. Treated by Carbon-arc only	2
,, ,, Mercury-vapour only	—
,, ,, Carbon-arc and Mercury-vapour	3
No. of Exposures to Carbon-arc only	206
,, Exposures to Mercury-vapour	39

RESULTS AND CONDITIONS TREATED.

	Cured.	*Still under Treatment.*
Tubercular Cervical Glands	1	2
,, Peritonitis	—	1
Hæmophilia	—	1

Section 7.

OPEN-AIR EDUCATION.

I am indebted to the Head Mistresses of the Open-Air Classes and Schools for the particulars given in the Tables below.

Table 52.

	On register 31/12/25	Admitted in 1926	Discharged in 1926	On register 31/12/26	Av. duration of attendances of those discharged	Av. increase in weight of those discharged
					Weeks	
SCHOOLS—*Non-Residential*						
Corporation Park	49	27	31	45	76·0	12·1 lbs.
Corporation Hospital	33	22	23	32	50·8	8·75 lbs.
Totals	82	49	54	77	63·4	10·42 lbs.
CLASSES :						
Accrington Road	27	22	22	27	57·3	7·2 lbs.
Bangor Street	26	27	27	26	31·0	6·7 lbs.
Totals	53	49	49	53	44·15	6·95 lbs.
RESIDENTIAL :						
Corporation Hospital	20	30	34	16	11·5	7·25 lbs.
Grand Totals	155	128	137	146	39·68	8·20 lbs.

The above Table reveals some interesting and suggestive facts. The longest average duration of attendances at the non-residential schools was among the children in the Corporation Park School, and this school also gave the highest average increase in weight. Perhaps the most instructive point is the large increase of weight, attained over a comparatively short period, among the children of the Residential School at the Corporation Hospital. These children, initially, are among the worst cases chosen by the School Medical Inspector for open-air school régime, and are therefore the poorest material to work upon. At the Hospital the children are subject to a hygienic routine, with adequate rest, exercise, and good food; and the improvement manifested in their physical and mental condition is little short of astounding. It is a matter for regret that these children cannot be kept longer, on account of the disinclination of the parents to let their children stay away from home for a long period. The fact remains, and stands out prominently, that with skilled supervision and the practice of the rules of health, even the most unpromising cases of malnutrition, debility, incipient tuberculosis, and the like, can be converted into healthy young citizens capable of holding their own against their more fortunate fellows. It is sad to record that, on returning to the environment which primarily brought about their ill-health, some of these children relapse, and those whose stay has been the shortest, tend to relapse the quickest.

It is a subject meriting the closest consideration, as to whether the provision of extended residential open-air facilities for delicate school children is not a sound economic proposition. Not immediately demonstrable, perhaps, but reflected in the better material supplied to the workshops of this country, and a larger return for the services rendered. To rehabilitate a child in health for a short period only is uneconomical, when, with a somewhat greater expenditure of money in the initial stages, the same child can be brought to a state of health which is capable of resisting the deleterious effects of pernicious environment.

For a school population of over 17,000 children, the present open-air school accommodation is inadequate. In the provision of future school premises it would be architecturally easy to so build them as to be virtually open air in type, and yet with all the amenities usually associated with the ordinary "closed" elementary school.

At the Park Open-air School a change was made in the dietary of the children towards the close of the year, an allowance of one pint of Grade A milk being given to each child instead of the Horlick's Malted Milk formerly used. Virol is also given to certain cases specially recommended by the medical inspector.

Residential Open-Air School.

Thirty patients were discharged in 1926; of these 19 were males and 11 females. The complaints for which they were admitted were: Pulmonary Tuberculosis, 3 boys and 2 girls; Tubercular Glands, 1 boy and 1 girl; Pre-Tubercular State, 6 boys and 3 girls; other Non-pulmonary Tubercular conditions, 4 boys and 1 girl; and other conditions, 5 boys and 4 girls.

Sixteen children remained in the school at the end of the year. The illnesses from which they were suffering and for which they were admitted were: Pulmonary Tuberculosis, 2 boys and 1 girl; Pre-Tubercular State, 3 boys and 2 girls; Tubercular Glands, 1 girl; other T.B. conditions, 1 boy and 1 girl; other conditions, 5 girls.

Light Treatment, by means of the Carbon Arc Lamp and a Mercury Vapour Lamp, is available for these children.

SCHOOL BATHS AND SWIMMING INSTRUCTION.

I am indebted to the Director of Education for the subjoined remarks :—

Physical Training.

The arrangement for the teaching of Physical Training in the Public Elementary Schools, as reported last year, are still being adhered to, and are proving most satisfactory. The work is, as a rule, taken by the class teacher. In a few departments one teacher is responsible for the Physical Training throughout the School. The time-table provides for a daily lesson of 20 minutes for junior schools and four lessons of 20 minutes plus one lesson of 45 minutes for organised games in senior classes.

Progress in Physical Training has been considerably hampered during the last six months by the bad weather which has

prevailed and made it difficult to arrange for the Physical Exercises to be taken in the open air.

It cannot be too strongly urged, however, that nothing should be allowed to interfere with the regular practice of this subject. Suitable indoor accommodation is very often limited, but teachers in charge of this important branch of school work are making efforts to adapt the work to existing conditions. This has been done with success in some schools. The Committee are still gradually extending the provision of playing fields, though again the weather conditions make it impossible to obtain the full benefit from their use.

The new sites proposed to be purchased for educational developments in connection with the three years' programme are of areas sufficiently large to allow plenty of opportunity for organised games and the cultivation of the team spirit.

Owing to the coal strike the swimming baths were closed to school children for the season. The Teachers' Net-Ball Club meet once a week at the Harrison Gymnasium, several matches being played during the winter.

The medical service is closely connected with the scheme of physical instruction. Teachers are asked to bring to the notice of the School Medical Officer all cases of children who may be suffering from some physical defect as evidenced in the physical training lesson. In addition to the usual physical education, there is a special syllabus of remedial exercises for children who suffer from minor ailments; such children receive treatment at the remedial exercises clinic attached to the School Medical Department.

Swimming Instruction.

Baths opened Monday, April 27th; closed Saturday, October 30th.

The attendances of school children for instruction in swimming during the weeks extending from 27th April to 30th October were as follows :—

Boys.

Freckleton Street	32,867	Weekly Average	1,494
Belper Street	21,405	,, ,,	950
Total	54,272	Total	2,444

Girls.

Blakey Moor ..... 20,713 Weekly Average 796

CERTIFICATES ISSUED.

Boys.

	Half-Mile.	Quarter-Mile.	Proficiency.	Total.
Freckleton Street ...	117	128	330	575
Belper Street	99	140	285	524

Girls.

	Half-Mile.	Quarter-Mile.	Proficiency.	Total.
Blakey Moor	65	55	275	395

The Baths Committee granted free Season Tickets to 117 boys at Freckleton Street; 99 boys at Belper Street; 65 girls at Blakey Moor; total, 281. These attended: Freckleton Street, 3,203; Belper Street, 5,968; Blakey Moor, 1,453. The "grand total" of children's attendances at all Baths is 103,681.

The classes for instruction in methods of saving life from drowning were held (for boys) as in previous years. The candidates entered for the Certificates—different degrees—of the Royal Life Saving Society numbered:—Boys: Elementary Certificate, 73; Proficiency Certificate, 12; Bronze Medallion, 8. All candidates were successful, the Examiner expressing his satisfaction with the pupils' proficiency and training.

PROVISION OF MEALS.

The following meals were provided by the Local Education Authority:—

Necessitous Cases	149
Other Cases	850

The necessitous cases were 42 more than in 1925. The figures for the preceding years were: 1920, 52; 1921, 392; 1922, 51; 1923, 63; and 1924, 101.

The number of other cases decreased from 931 in 1925 to the above figure.

The number of actual meals supplied to the necessitous cases was 19,049, including Regent Street School. An average of 127 meals per child.

The number of meals supplied, and for which parents' payments were received, was 40,275. An average of 47 meals per child. These figures include day scholars at the Residential Open-Air School and at Regent Street School.

Section 8.

STAMMERING.

The definition of stammering given in the Oxford Dictionary is : " To falter or stumble in one's speech, especially to make one or more involuntary repetitions of a consonant or vowel before being able to pass from it to the following sound."

In common usage the phrase " stammering " is made to cover all defects of speech not strictly included in the above definition, *e.g.*, lalling, lisping.

Stammering is due to a spasm of the respiratory muscles in the act of speech. In bad cases the disturbance may spread so widely as to cause spasmodic movements of the arms or other parts of the body. These movements are called " associated movements " in the brief résumé of cases given below.

The causes leading to stammering are twofold : Predisposing causes, of which a neurotic inheritance is the chief, and Exciting causes, such as any condition tending to interfere with and embarrass respiration in early life, *e.g.*, adenoids. Stammering is not due to any structural defect in the central nervous system. It is apt to disappear when the attention is diverted from it, as in singing. Complicated consonants are the chief difficulty with stammerers ; an illustration of the theorem that the latest developed mental faculties are the first to decay and are the most unstable. Stammerers are usually of a highly-strung, nervous type, easily worried and self-conscious.

Treatment should be directed therefore to (*a*) The removal, as far as possible, of respiratory defects and of the causes which have led to those defects. (*b*) The re-education of the disordered mechanism of respiration and speech production.

In mild cases correction of faulty habits and attention to the general health may suffice to cure, but in the more severe cases a course of speech training is necessary also.

Fifteen children underwent special tuition in Miss Drummond's Stammerers' Class held in November and December. The class consisted of 4 girls and 11 boys. Stammering is always more prevalent in boys than girls.

The condition before and after training are summarized below :—

1. Girl aet. 12. Moderate stammer; reading and speaking. || Stammer cured; associated movements ceased; no hesitation conversation or reading.

2. Boy ,, 8. Very bad stammer reading and speaking; no associated movements. || Much improved; no stammer speaking; slight stammer on reading vowel "a."

3. Girl ,, 9. Hesitation and baby speech; lisping. || Much improved; still some difficulty with "th."

4. Girl ,, 13. Stammer on speaking, not on reading. || Cured.

5. Boy ,, 12. (Twin). Slight stammer speaking; explosive stammer reading; associated contortions of face. || No stammer speaking; very slight stutter reading; no contortions.

6. Boy ,, 12. (Twin). Stutter at certain consonants readings. || Still had some difficulty with words beginning with "h," "b."

7. Boy ,, 11. Hesitation; trouble with linguals, labials explosives and dentals; associated movements arm and leg. || Greatly improved; no trouble in conversation; slight hesitation reading; no associated movements.

8. Boy ,, 13. On reading, words brought out in small bursts of two or three; associated movements of face. || Much improved; explosive outbursts ceased; no associated movements.

9. Girl ,, 13. Difficulty on reading words beginning with "b," "h," "k," "t" and "s." || Showed improvement; still difficulty with "b," "th" and "h." A nervous, highly-strung girl.

10. Boy ,, 13. Marked hesitation reading and speaking. || Much improved; no stammer on speaking; slight hesitation at "h" on reading.

11. Boy ,, 13. Stutter at linguo-dentals and explosives. || Much improved, no impediment.

12. Boy act. 12. Marked hesitation beginning of sentences, speaking and reading; associated swaying movements. || Much improved; no hesitation; no associated movements.

13. Boy ,, 13. Initial stutter, drawn-out monotone before words; associated movements of hand. || Still some hesitation, monotone lost; slight movements. This boy is backward.

14. Boy ,, 12. Stutter at explosives, labio-dentals and linguo-dentals, associated facial contortions, cough and shuffling of feet. || No stutter or hesitation, much improved.

15. Boy ,, 10. Not examined prior to admission (outside the borough); slight hesitation words beginning with " h "; some associated movements of eyebrows.

I am indebted to Miss Drummond for the following précis of her methods based upon the Berquand System :—

The Berquand Method of treating stammerers consists of a series of lip, throat and tongue exercises, reading, recitation and conversation. It is divided into three periods :

1st—Gymnastics of the organs of respiration, sound and articulation; the flexibility of the vocal apparatus; preparation of the new habits of voice production which will be put into practice from the second period onwards; absolute silence, except when practising the vocal exercises.

2nd—Reading, reciting, relating of stories, etc., conversation—all very slowly. Towards the end of the third week the pupil may read, recite and talk to members of his own family, very slowly and carefully.

3rd—Improvements during this last period—the reading, recitations, relating of stories and events, conversations, are each day taken a little quicker, so as to arrive, by the end of the course of treatment, at the ordinary speed used by people who speak clearly and distinctly, without haste, jerks, or mistakes. At the end of the course, the pupil is in a convalescent state and must watch over himself for a few months.

If parents or guardians and those with whom the patient is living will exact the performance of such regulations as concern him, and if he be diligent and persevering, one can boldly promise a permanent cure of his affliction.

CO-OPERATION OF PARENTS.

In order to ensure as far as possible the co-operation of parents in the work of School Medical Inspection, a notice is sent giving the date and time when a child is to be examined and inviting the parent to be present. After the examination the Medical Inspector points out any defects found, and gives advice as to how they may be remedied—either by operation, treatment from a private practitioner, or at one of the various Clinics, transfer to a Special School, etc.

In the event of a parent not being present, as is unfortunately often the case, a notice is sent stating the disability found and the treatment advised, and, if further information is required, the time and place at which the Medical Inspector may be interviewed. In the case of defective children who are shortly leaving school, parents are, when they so desire, given advice by the Medical Inspector regarding suitable employment.

All children in whom disabilities are present are followed up by one of the school nurses, who visits the home and endeavours to enlist the help of the parents in getting the necessary treatment carried out. In the case of children for whom glasses have been prescribed at the Ophthalmic Clinic, the nurse visits in order to see that these have been obtained; if they have not, she explains the danger of allowing the child to be without them and points out the need for wearing them constantly when they are obtained. Children who have obtained spectacles are re-examined by the Ophthalmic surgeon at the end of the month, to ascertain if the spectacles are, in all respects, correct.

Cases in which the tonsils and adenoids have been removed are visited within a week after the operation by one of the school nurses, who advises the mother on the nursing of the child, and the importance of after-training in breathing habits.

The presence of parents is welcomed at the various Clinics, so that a satisfactory history of the illness may be obtained, and a verbal explanation of the necessities of the case given.

CO-OPERATION OF TEACHERS.

The Head Teachers are invited to bring to the notice of the Medical Inspector during visits to schools for routine medical inspections, any children who in their opinion require a special examination.

After each visit of the Medical Inspector to a school a list of the various defects found in the children examined is sent to the Head Teacher; their help is frequently of great use in carrying out various points in treatment, such as seeing that children who have glasses wear them regularly in school, supervising children whose drill and games require restriction, and in the case of certain schools, seeing that the children observe the prescribed rest periods. The influence of the Teacher is a weighty factor in health habits training and performance.

The Head Teachers, when necessary, send cases to the Minor Ailment and Inspection Clinics—in this way many disabilities, which have developed in children between the regular inspections, are brought to the notice of the medical department.

With regard to the prevention of the spread of infectious and contagious diseases, the help of the teachers is very valuable, in that any suspicious case is at once sent home, and is allowed to return to school only on production of a certificate of fitness signed by a medical practitioner.

CO-OPERATION OF THE SCHOOL ATTENDANCE OFFICERS.

Some parents are inclined to keep their children away from school for a considerable period after complete recovery from an illness; the School Attendance Officers send to the Inspection Clinic for examination all children concerning whom there is any doubt as to their fitness for school, in order that a decision may be made by the Medical Inspector.

Cases are also frequently sent to the Minor Ailment Clinics by the School Attendance Officers. When financial circumstances do not permit of parents obtaining for their child within a reasonable period glasses which have been prescribed, the help of the

School Attendance Officers in visiting the home and explaining the deferred payment system now in practice has been found useful.

In the case of verminous children whose condition necessitates exclusion from school and whose parents do not hurry the cleansing process, a visit from one of the School Attendance Officers does much to expedite matters.

The help of the School Attendance Officers during periods of epidemics is most valuable, though occasionally, through overzeal in their efforts to maintain a good standard of attendances, children are returned to school before they should have gone. To the Chief School Attendance Officer I should like to express the thanks of my department for the willing assistance he has always afforded us.

CO-OPERATION OF VOLUNTARY BODIES.

The National Society for the Prevention of Cruelty to Children.

I am indebted to the Honorary Secretary, Mr. Councillor R. Muir Oddie, for the particulars below. I would like to express the thanks of the members of the School Medical Staff for the unfailing help we have received from this Society and their Inspector, Mr. Blake. Their influence has often proved to be of very great usefulness.

Table 53.

Cases Reported by Officials of Education Authority ...	127
Dealt with as follows—	
Warned and supervised	105
Dropped	19
Admitted to Hospital	3
	127

Classification of Complaints.

Neglect to provide Glasses	104
Refusal to attend Clinic for examination (vision)	5
,, ,, ,, ,, (teeth and vision)..	1
Taken out of Open-Air School when T.B. subject	1
Neglect (verminous)	5
Neglect (general)	4
Enlarged Tonsils	3
Wry Neck	1
Club Foot	1
Infantile Paralysis	1
Eversion deformity, left foot	1
	127

Number of Children provided with Glasses after parents have been warned 79

Cases Reported by Infant Welfare Department	7
Warned and supervised	5
Dropped	1
Admitted to Hospital	1
	7

Classification of Complaints.

Rickets	3
Congenital Dislocation of Hip	1
General Debility	1
T.B. left Hand	1
Leaving young Children in house unattended	1
	7

The After-Care Sub-Committee of the Juvenile Employment Committee.

I am indebted to Mr. Lister, the Juvenile Employment Officer of the Education Committee, for the subjoined particulars.

During 1926 the After-Care Sub-Committee followed up at home 48 children who had left school with untreated physical defects. Of these :—

Table 54.

Received Medical attention since leaving School	8
Promised attention	4
Parents say defects improved and no further treatment required	26
Children with Glasses but not wearing them	2
No attention received (Defective Eyesight), parents indifferent	8

Licensing of Children for Entertainments.

Thirteen girls between the ages of 12 and 14, residing and licensed in other towns, were granted permission to take part in Entertainments, chiefly Pantomimes, within the Borough, for one week.

Four of the girls were re-examined by the School Medical Officer and new health certificates given. They were all in good health and well cared for. The licences, birth, medical and school certificates were produced and found to be in order.

Blackburn Crippled Children's Aid Society.

Close co-operation has been maintained with the above Society, and their aid in supplying necessary apparatus to needy children has been of advantage both to the children themselves and to the Orthopædic Clinic.

Thirty-eight cases have been referred by the Clinic to the Society for various reasons; of these 19 were for admission to Queen's Park Hospital, and 8 for special apparatus. The remainder were sent for alteration of apparatus and for slight adjustments to be made.

Section 9.

BLIND, DEAF, DEFECTIVE AND EPILEPTIC CHILDREN.

The full statistical details are given in Table iii. of the Tables required by the Board of Education. This Table will be found on page 117 in the Appendix.

Blind Children.

One boy, aged 12 years, and two girls, aged 13 and 15 respectively, are inmates of the Home for the Blind, Fulwood, Preston. Three boys, aged 11, 11, and 9 years, are inmates of the Catholic Blind Asylum, Liverpool.

One boy left Fulwood and one boy left the Blind Asylum, Liverpool, during the year and were received into the Blackburn Workshops for the Blind.

During the year these institutions were visited by the Chairman of the School Attendance Reference Sub-Committee, the Director of Education and the School Medical Officer, and the Blackburn children were seen. The deputation was quite satisfied that everything possible was being done for the children.

Partially Blind Children.

This is a somewhat difficult classification. The Ophthalmic Surgeon, Dr. Wishart, has taken as his basis a defective eyesight of 6/24 vision in both eyes. Upon this basis there were 2 boys and 2 girls attending the elementary schools, and 1 boy at no school or institution.

The formation of a "Myope" class, wherein children with defective eyesight, and in particular those whose defect is of the kind that tends progressively to become worse, would be a right step to take. These children are at a disadvantage in the ordinary class.

Training is given to children leaving schools for the blind at the age of 16 years, in the Blackburn Workshops for the Blind, Thornber Street. Basket-making, brush-making, cane chair-seating, and knitting on both round and flat machines are taught.

Deaf Children.

Seven boys and 4 girls are inmates of the Royal Cross School, Preston. Two of these boys and one girl show concomitant mental defect, and the outlook in their cases is not promising. All the other children are mentally bright and should be able to maintain themselves on leaving school. One boy died during the year in this Institution from meningitis, and one boy was discharged upon attaining the leaving age of 16 years.

One deaf and dumb girl, aged 5 years, was sent during the year to the St. John's R.C. Institution for the Deaf and Dumb, Boston Spa. She promises to do well.

The deputation on their visit were very favourably impressed with the management, and the pervading good tone, at these institutions.

MENTALLY DEFECTIVE CHILDREN.

Regent Street Special School.

This school can accommodate 80 children. At the commencement of 1926 there were 50 children on the school roll, and at the end of the year, 33.

Four girls were discharged, one to Calderstones Certified Institution, and 12 boys. Of these, one was transferred to the Wellesley Nautical School and one back to the ordinary Elementary School. One girl was taken off the register owing to persistent ill-health.

The subjoined Table gives particulars of the present status of the 171 children discharged from the school since its inception in 1910.

Table 55.	*Boys.*	*Girls.*
1. No. of children who have left the school since 1910	133	58
2. No. who—		
(*a*) have since died	12	7
(*b*) are known to be incapable by reason of mental defect of undertaking employment	10	5
(*c*) in attendance at an institution for further education	4	1
(*d*) are in other institutions	17	7

3. No. employed in—		
(*a*) industrial or manual occupations	50	23
(*b*) agricultural or rural occupations	14	—
(*c*) domestic occupations (including those who are helping in domestic work at home)	—	7
(*d*) commercial, professional or clerical work	8	2
(*e*) "blind alley" or precarious occupations	5	—
4. No. who have left the neighbourhood or whose after-careers have not been traced ...	13	6

I am indebted to Miss Balshaw, the Head Mistress, for the above figures.

There is manifest an increasing reluctance on the part of parents to consent to their children attending this school. The reason for this is, apparently, that in the past some low-grade children have been admitted, and the school has taken its standard in the eyes of parents, from these cases. An endeavour will be made to weed out gradually those children who are practically ineducable, and to replace them with higher grade cases. This will be a matter of some difficulty owing to the fact that the school is "labelled" in the minds of parents as a "silly" school, and the higher the grade of the child, the greater the opposition to be overcome before consent can be obtained.

The following details of cases admitted since 1920 illustrates this point. In 1926, 8 cases were recommended for admission.

	1920	1921	1922	1923	1924	1925	1926
Boys.....	7	4	5	3	6	2	...
Girls.....	3	2	5	1	3	...	1
Total.....	10	6	10	4	9	2	1

The Head Teacher also reports that the playground space is insufficient to allow of organised games for the higher grade children, though once a week the girls are taken to the barracks for this purpose.

Seventeen children were notified to the Local Control Authority during the year. Of these 13 were boys and 4 girls. The boys were : 12 feeble-minded and 1 an idiot ; of the girls, 3 were feeble-minded and 1 an imbecile. Children notified to the Local Control Authority are those who are found to be ineducable.

Eight boys and 8 girls classified as feeble-minded were attending Public Elementary Schools ; 4 boys were attending at other institutions, and 1 girl was at no school or institution. These are instances of reluctance on the part of parents to avail themselves of the Regent Street Special School.

Industrial Schools.

Five boys were in the Wellesley Nautical School, Blyth, Northumberland, at the beginning of the year. One was discharged in July, and two more admitted in July and November.

Six boys were in St. Joseph's Boys' Certified Industrial School, Longsight, Manchester, and of these two were discharged during the year.

Five boys were in Stockport Certified Industrial School, and of these two were discharged whilst one was transferred to the Wellesley Nautical School.

One boy is at the St. George's R.C. Industrial School, Freshfield, Liverpool ; one boy is at the Stoke Park Industrial School, Stapleton, near Bristol ; and one boy was admitted during the year to the Axwell Park Industrial School, Newcastle-on-Tyne.

Two girls are inmates of the Thorparch Grange Industrial School, Boston Spa.

Epileptics.

One boy suffering from severe Epilepsy is an inmate of the Chilton Home, Maghull, near Liverpool. The report to the deputation at their visit was not very encouraging. The fits still persist and are—as is so often the case—gradually bringing about a progressive mental deterioration.

One girl and one boy suffering from severe Epilepsy attend the ordinary Elementary Schools, and one boy and two girls attend no school.

Seven boys and four girls suffering from mild Epilepsy attend the ordinary Elementary Schools.

Physically Defective Children.
Infectious Tuberculosis.

There is one boy suffering from infectious pulmonary and glandular Tuberculosis who is in a Sanatorium. No known cases of this type are attending public elementary schools.

Non-Infectious but Active Pulmonary and Glandular Tuberculosis.

One boy and 2 girls are in Sanatoria; 4 boys and 3 girls are in certified Residential Open-Air Schools; 7 boys and 2 girls in the day open-air schools; 27 boys and 19 girls attend public elementary schools; and 1 boy and 5 girls are at no school or institution.

The group of 46 children who are attending the elementary schools constitute a proportion of those who would benefit by increased residential open-air accommodation.

Delicate Children.

(Pre- or latent Tuberculosis, Malnutrition, Debility, Anæmia, etc.).

Eleven boys and 7 girls are in the Residential Open-Air School; 57 boys and 56 girls attend day open-air schools; 80 boys and 112 girls attend ordinary schools; and 2 boys and 4 girls are at no school or institution. Again, the group of 192 children attending public elementary schools would benefit by residential open-air education. Indeed, some of the 113 children now going to day open-air schools would make more rapid progress by residential régime.

Active Non-Pulmonary Tuberculosis.

During the year the open-air Children's Wards at the Queen's Park Hospital were recognised by the Board of Education as a Certified Hospital School.

Seven boys and 3 girls were inmates of an approved Hospital School; 4 boys and 3 girls were at day open-air schools; 6 boys and 6 girls were attending public elementary schools; and 2 girls were at no school or institution.

Crippled Children.

Seven boys and 9 girls are at a certified Hospital School; 50 boys and 40 girls attend the public elementary schools; whilst 13 boys and 3 girls are at no school or institution.

The majority of the 90 children attending the Elementary Schools would benefit by transfer to a residential open-air school. It should be remembered that the figures given above include children crippled by severe heart disease.

The following Table gives an indication of the main causes of crippling. The figures are not complete, but include all who have been followed up and are under observation or treatment.

Table 56.

		Crippling due to Tuberculosis	
Cause:		Joint Affected:	
Infantile Paralysis	19	Hip	2
Tuberculosis	9	Spine	5
Congenital	21	Knee	...
Rickets	8	Ribs	...
Accidents	7	Elbow	1
Birth Injury	8	Ankle	1
Total	72		9

45 X-Rays examinations, including the taking of films, were carried out for the Orthopœdic Clinic, at the Corporation Hospital.

Section 10.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

This work is carried out in close co-operation with the Juvenile Employment Officer. During 1926, the juvenile employment cards of 1,413 children were completed by the Assistant School Medical Officers at the examinations held a few months before the children left school. This compares with 1,125 in 1925; 1,284 in 1924; 1,216 in 1923; and 714 in 1922.

The classification used is as under :—

1. Fit for any employment.
2. Defective vision, including diseases of the eye-ball.
3. Defective hearing, including middle ear disease.
4. Recurrent naso-pharangeal catarrh.
5. Disease of the lungs, including asthma.
6. Heart disease.
7. Muscular weakness or poor development.
8. Malnutrition, including anæmia.
9. Deformities, including feeble-minded.
10. Complications : two or more of the above.

The Juvenile Employment Officer, from the code number placed upon the school record, has a working knowledge of what occupation will be suitable and what unsuitable for the child concerned. In case of doubt as to whether or not any particular occupation would be unsuitable for a child in Groups 2 to 10, reference is made to the School Medical Officer. The following Table shows the results of the examinations :—

Table 57.

EXAMINED FOR EMPLOYMENT.

Code No.	1	2	3	4	5	6	7	8	9	10	Total
Boys	552	142	5	...	1	6	..	1	9	1	717
Girls	545	143	1	...	2	4	...	...	1	...	696
Total	1097	285	6	...	3	10	..	1	10	1	1413

The number of children licensed for employment out of school hours at the end of the year was 445, consisting of 425 boys and 20 girls. This is an increase of 41 boys and of 1 girl as compared with the previous year.

The employment for which the licences were granted was as follows :—

Table 58.

	1925.		1926.	
	Boys.	Girls.	Boys.	Girls.
Delivery of Goods for Shop-keepers	150	4	145	6
Delivery of Newspapers	160	3	204	2
Delivery of Milk	61	7	61	8
Employment on Market	13	5	15	4

These children are licensed for two hours' work each school day (from 7 to 8 a.m. and 5 to 6 p.m., or from 5 to 7 p.m.) and 5 hours work on Saturdays.

Those who delivered milk were also allowed to work for two hours on Sundays.

203 boys and 13 girls who had applied for registration for employment out of school hours were examined by the Assistant School Medical Officer; 3 (all boys) were refused certificates : 1 because he was under 12 years of age, 1 on account of suffering from bronchitis ; and 1 with defective vision, for whom glasses had been prescribed but not obtained.

For those interested in the problems of juvenile employment it is right that I should mention the valuable report issued during the year by the Industrial Fatigue Research Board and entitled "A Study in Vocational Guidance."

The object of the enquiry was to endeavour to discover and measure by scientific means those varying qualities of the mind that make different individuals suited to different occupations. Vocational psychology has therefore two aims. It seeks to choose the best occupation for any given person and the best person for any given occupation.

Sections in the report are devoted to various Intelligence, Scholastic and Special Abilities tests; the estimation of character qualities in Vocational Guidance, the influence of Home Conditions and Physical Conditions, and other matter relevant to the scope of the enquiry.

The following are some of the conclusions arrived at:— (a) That the factors involved in any attempt at vocational guidance are numerous and complex. (b) That the value of intelligence, scholastic and special abilities tests is fully confirmed. The following quotation from the report elaborates this conclusion: "For vocational guidance the special value of such tests is two-fold. First of all, however great may be the intrinsic value of a teacher's observations, there is no other means of equating the standards of one teacher with another, or of one school with a second; tests thus provide a uniform scale of measurement, capable of almost universal application. Secondly, tests are time-savers; where a teacher's report cannot be obtained, or where the child is a new comer to the school and has not been under observation long enough, then a brief test lasting for only half an hour is sufficient to give a fairly accurate estimate of his general ability."

There is, however, no precise rule for vocational guidance that can be put into the hands of teachers or welfare workers. The real value of these methods lies in the interpretation of the test results.

Of other factors the most important appear to be qualities of character and temperament. Another point is the distinction between children who have a verbal and a non-verbal bias. Many occupations depend little on verbal capacities.

Vocational Psychology is very much in its infancy, but this report shows that it has a real bearing upon industry, and future research may reveal some connection between industrial unrest and the presence of "misfits" in branches of industry. If a man is interested in his work and enjoys it, unless there is some irritant acting, apart from his actual work, it is not likely that he will become an agitator or a malcontent.

Table 59.

Chief Causes of Exclusions from School.

Condition	Exclusions carr. fwd. fr. m 1925	1926		Still excluded Dec. 1926	1926 % of total exclusions	1925 % of total exclusions
		Exclu's	Returns			
Ringworm—Head	11	75	76	10	2·43	2·76
,, Body	3	38	37	4	1·15	2·41
Verminous condition ...	2	237	232	7	6·75	2·84
Impetigo	8	106	111	3	3·21	5·68
Scabies	...	26	25	1	0·73	0·16
Scarlet Fever	46	295	324	17	9·63	10.79
Measles	75	729	618	186	22·75	27·84
Diphtheria	1	131	127	5	3·73	3·14
Whooping Cough	174	409	580	3	16·46	13·23
Chicken Pox	50	803	841	12	24·09	14·55
Mumps	6	155	156	5	4·54	12·94
Tuberculosis	6	25	24	7	·87	0·54
External Eye Disease ...	7	24	29	2	·87	1·13
Sore Throat	...	5	5	...	·14	0·07
Other Causes	30	53	80	3	2·34	1·87
Ear Defects	...	11	11	...	·31	
Total	419	3122	3276	265	...	...

It is seen that the main cause of compulsory absence from school—the group of infectious diseases—remains much the same in 1926 as in 1925.

The Infectious Diseases accounted for 81.20% of the exclusions in 1926, and 82.49% in 1925; there was therefore a slight decrease in the total incidence of infectious disease in children during the year. Chicken Pox (24.09%), Measles (22.75%), and Whooping Cough (16.46%) were the chief causes of exclusion. Chicken Pox was most prevalent in the first half of the year; Measles in the second half.

Verminous conditions and Scabies as causes of exclusion rose from 3.00% in 1925 to 7.48% in 1926. The coal dispute may have had a bearing on this increase.

Diphtheria again showed a slight increase, but happily the percentage remains low.

Section 11.

SECONDARY SCHOOLS.

The routine inspections at the Grammar School, and at the High School for Girls, during the year, embraced, firstly, all scholars newly admitted to the Schools; secondly, scholars aged 12 years; and thirdly, scholars aged 15 years and those over 15 who were leaving during the year.

Two hundred and two children were inspected at the High School and its preparatory branch at Crosshill. These comprised 188 girls and 14 small boys. At the Grammar School, 304 boys were examined.

The parents of 149 girls (73%) and of 64 boys (21%) were present at the inspections. These percentages are better than for the Elementary Schools, particularly so in the case of the girls.

Average Heights and Weights.

Table 60.

Boys.				Girls.		
Year of Birth	Number Examined	Height in inches	Weight in Pounds	Number Examined	Height in inches	Weight in Pounds
1921	...	...	...	11	42·38	38·25
1920	...	...	...	8	45·90	44·80
1919	...	...	...	3	45·58	46·41
1918	8	51·75	59·62	4	52·125	60·31
1917	10	53·50	63·50	4	51·81	57·12
1916	4	53·50	62·00	4	53·87	63·25
1915	38	54·90	97·60	27	55·00	65·70
1914	92	56·45	79·61	16	54·14	66·73
1913	3	58·50	83·00	2	59·25	88.00
1912	2	58·00	87·00	1	62·00	107·00
1911	2	62·00	99·00	5	61·05	90·70
1910	1	68·00	142·00	6	61·71	103·60
1909	24	66·64	124·80	1	62·25	108·50
1908	8	68·50	138·50	...	...	...
1907	4	68·72	143·62	...	...	...
1906	...	...	...	..	...	...
1905	...	...	...	...	...	...

The figures in the Table are too small to allow of deductions being made from them, but comparison with Table 11 giving similar details in respect of elementary school children is interesting.

Table 61.

RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION, 1926.

Defect	Males			Females		
	No. requiring Treatment	No. referred for Observation	Percentage of Total	No. requiring Treatment	No. referred for Observation	Percentage of Total
Malnutrition	...	...	...	...	...	...
Uncleanliness :—						
Head	1	...	0·3	22	...	10·9
Body	1	...	0·3	...	...	...
Skin Disease	2	...	0·7	1	...	0·5
Eye Diseases :—						
Defective Vision	29	13	13·8	16	5	10·4
Squint	3	...	1·0	3	...	1·4
External Eye Disease	1	...	0·3	...	...	...
Ear Diseases :—						
Deafness	1	...	0·3	3	2	2·5
Otitis Media	...	...	...	1	...	0·5
Other Diseases	7	1	2·6	6	...	3·0
Nose and Throat :—						
Enlarged Tonsils	4	8	4·0	3	...	1·4
Mouth Breathers	1	...	0·3	5	2	3·5
Enlarged Cervical Glands (Non-Tubercular)	...	...	...	...	...	...
Dental Defects	80	3	27·3	85	...	42·0
Heart and Circulation :—						
Organic	...	1	0·3	...	3	1·4
Functional	...	3	1·0	...	2	1·0
Anæmia	...	3	1·0	1	8	4·4
Bronchitis	...	2	0·7	...	...	...
Other Non-Tubercular Pulmonary Disease	...	1	0·3	1	1	1·0
Pulmonary Tuberculosis	...	...	...	...	...	...
Spinal Tuberculosis	...	...	...	...	...	...
Nervous System Disorders (including Epilepsy, Chorea, etc.)	1	2	1·0	...	1	0·5
Deformities :—						
Spinal Curvature	8	6	4·6	1	...	0·5
Others	2	3	1·6	1	6	3·5
Other Defects or Diseases	8	9	5·6	4	4	4·0
Totals	149	55	67·1	153	34	92·5
Total Children Examined ...		304			202	

Table 62.

Following-Up.

Cases Referred for Treatment and Followed Up.

Disease or Defect	Treated.								Not Treated			Total	
	Cured.		Improved.		Not Improved.		Percentage.				% age		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		M.	F.
Defective Vision	5	6	10	4	2	2	85·0	85·9	3	2	14·7	20	14
Decayed Teeth .	3	22	2	9	...	...	50·0	65·9	5	16	36·8	10	47
Enlarged Tonsils	4	...	...	...	...	...	80·0	...	1	...	20·0	5	...
Mouth Breathers	1	...	2	...	...	..	100·0	...	...	...	...	3	...
Other Nose and Throat	...	...	...	...	..	...	...	..	...	1	100·0	...	1
Deafness	...	...	...	1	...	1	...	66·6	...	1	33·3	...	3
Otitis Media ...	...	...	...	...	1	...	100·0	...	...	1	50·0	1	1
Other Defects ...	...	...	...	..	1	...	50·0	...	1	...	50·0	2	...
Spinal Curvature	1	...	3	2	2	...	100·0	66·5	...	1	11·1	6	3
Other Deformities	1	...	...	...	...	1	50·0	100·0	1	...	33·3	2	1
Skin Diseases	...	...	...	...	...	...	...	...	1	...	100·0	1	...
Anæmia	...	...	...	1	1	...	100·0	100·0	...	...	...	1	1
Other Defects ..	1	...	1	...	...	1	40·0	100·0	3	...	50·0	5	1
	16	28	18	17	7	5	71·4	69·4	15	22	28·9	56	72

Table 63.

Cases kept under Observation.

Disease or Defect	Total		Referred for Treatment		Still to be kept under observat'n		Not for further observation	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Defective Vision	8	3	1	1	...	...	7	2
Enlarged Tonsiis	5	3	4	2	...	...	1	1
Non.-T.B. Lung Defects.	5	...	...	...	1	...	4	...
Heart Defects— Organic	4	2	...	...	3	2	1	...
Functional	...	...	...	...	...	...	...	...
Spinal Curvature	...	3	...	...	...	3	...	...
Other Deformities	...	2	...	...	...	2	...	...
Defective Teeth...	...	1	...	...	...	...	1	...
	22	14	5	3	4	7	14	3

Table 64.

COMPARISON BETWEEN THE RESULTS OBTAINED IN THE ROUTINE MEDICAL INSPECTION OF ELEMENTARY SCHOOL AND SECONDARY SCHOOL CHILDREN.

(Percentages of Defects).

Condition	Elementary		Secondary	
	M	F	M	F
Uncleanliness—				
Head	6·5	35·6	0·3	10·9
Body	6·7	5·7	0·3	0·0
Defective Vision	16·9	17·9	13·1	8·2
Defects of Nose and Throat	33·1	29·3	20·4	13·2
Circulatory System Defects	3·4	4·2	2·3	6·9*
Pulmonary System Defects (Non-Tubercular)	1·5	1·3	1·0	1·0
Ear Disease and Deafness	3·8	4·3	3·0	4·0
Dental Defects	27·4	25·4	10·5	12·3
Skin Diseases	1·7	1·4	0·7	0·5
	101·0	125·1	51·6	57·6

* 4·0% Anæmia.

The numbers dealt with under the Secondary School heading are small and on this account they lose in value. It is seen, however, that the percentage defects found are less in this group in almost every incidence, and this is most pronounced in the Dental Diseases group. The amount of head uncleanliness in the Secondary School girls is not a satisfactory feature, whilst they also show a higher percentage of circulatory defects—especially Anæmia—than do the Elementary School girls.

EDUCATION ON HEALTH.

During the Health Week held from February 23rd-28th, 1926, special Cinema films were shown to school children at the Queen's Hall, Darwen Street, and the St. Alban's Hall, Larkhill.

The Health Visitors have continued their Lectures to Domestic Science Schools upon the elements of baby welfare.

Table 65.

DEATHS OF SCHOOL CHILDREN, 1926.

Accident	8
Pul. Tuberculosis	5
Diphtheria	5
Bronchitis	3
Broncho-Pneumonia	3
Encephalitis Lethargica	2
Pneumonia	2
Under anæsthetics for T. & A. operation	2
Non. Pulmonary T.B.	1
Purpura Hæmorrhagica	1
Cerebral Meningitis	1
Hodgkin's Disease	1
Toxæmia	1
Anæmia	1
Appendicitis	1
Abscess of Brain	1
Cellulitis of Foot	1
Membraneous Laryngitis	1
Epileptic Fits	1
Otitis Media	1
Gastro Enteritis	1
Infective Arthritis	1
Influenza	1
Catarrhal Jaundice	1
Mitral Regurgitation	1
Drowned	1
	48

There was one death fewer in 1926 as compared with 1925. Taking the School Population as 17,065, the Death rate among children of school age was 2.81 per 1,000. In 1925 it was 2.82 per 1,000, and in 1924, 2.11 per 1,000.

The number of deaths attributed to Accident and to Pulmonary Tuberculosis was considerably more than in the previous year.

Return for the Board of Education of Work done during 1926.

Table I.

Return of Medical Inspections.

A.—*Routine Medical Inspections.*

Number of Code Group Inspections—	
Entrants	1867
Intermediates	1222
Leavers	1774
Total	4863
Number of other Routine Inspections (11-12 year-old group)	1413
Total	6276

B.—*Other Inspections.*

Number of Special Inspections	3261
Number of Re-Inspections	3186
Total	6447

Table II.

A.—Return of Defects found by Medical Inspection in the Year ended 31st December, 1926.

Defect or Disease. (1)	Routine Inspections. No. of Defects. Requiring treatment. (2)	Routine Inspections. No. of Defects. Requiring to be kept under observation but not requiring treatment. (3)	Special Inspections. No. of Defects. Requiring treatment. (4)	Special Inspections. No. of Defects. Requiring to be kept under observation but not requiring treatment. (5)
Malnutrition	...	6	...	...
Uncleanliness (See Table IV., Group V.)	1667	...	351	...
Skin.				
Ringwort: Scalp	10	...	226	...
Ringwort: Body	6	...	78	...
Scabies	15	...	15	...
Impetigo	25	...	533	..
Other Diseases: (Non-Tuberculous)	53	1	35	...
Eye.				
Blepharitis	22	1	25	...
Conjunctivitis	6	...	12	...
Keratitis	...	...	...	...
Corneal Opacities	15	...	1	...
Defective Vision (excluding Squint)	607	297	62	10
Squint	137	4	4	...
Other Conditions	19	1	199	...
Ear.				
Defective Hearing	40	10	6	...
Otitis Media	79	1	59	...
Other Ear Diseases	71	1	221	...
Nose and Throat.				
Enlarged Tonsils Only	144	229	1	...
Adenoids Only	15	24	2	...
Enlarged Tonsils and Adenoids	91	53	12	4
Other Conditions	10	4	4	...
Enlarged Cervical Glands (Non-Tuberculous)	...	11	2	...
Defective Speech	36	12	3	4
Teeth — Dental Diseases (See Table IV., Group IV. (Medical Inspector only)	439	1	14	1

TABLE II.—(Contd.).

Defect or Disease.	Routine Inspections.		Special Inspections.	
	No. of Defects.		No. of Defects.	
	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
(1)	(2)	(3)	(4)	(5)
HEART AND CIRCULATION.				
Heart Disease : Organic	2	39	...	...
Heart Disease : Functional	...	33	..	...
Anæmia	42	11	6	1
LUNGS.				
Bronchitis	8	34	...	2
Other Non - Tuberculous Diseases	1	5	...	...
TUBERCULOSIS.				
Pulmonary :				
Definite	4	2	...	...
Suspected	3	3	...	1
Non-Pulmonary :				
Glands	6	1	...	...
Spine	...	1	...	...
Hip	...	...	...	...
Other Bones and Joints	...	...	...	...
Skin	2	...	...	...
Other Forms	2	...	...	...
NERVOUS SYSTEM.				
Epilepsy	1	1	1	1
Chorea	1	3	...	...
Other Conditions	1	...	...	...
DEFORMITIES.				
Rickets	13	...	1	...
Spinal Curvature	89	6	1	1
Other Forms	19	4	1	...
Other Defects or Diseases	319	19	698	12

TABLE II.—(Contd.).

B.—NUMBER OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (excluding Uncleanliness and Dental Diseases).

GROUP	Number of Children		Percentage of children found to require treatment
	Inspected	Found to require treatment	
1	2	3	4
CODE GROUPS.			
Entrants	1867	308	16·5
Intermediates	1222	287	23·4
Leavers	1774	505	28·4
Total (Code Groups)	4863	1100	22·6
Other Routine Inspections	1413	434	30·7
Grand Total	6279	1534	24·4

Table III.

BLACKBURN COUNTY BOROUGH.

Return of all Exceptional Children in the Area.

			Boys.	Girls.	Total.
Blind (including partially blind).	(i.) Suitable for training in a School or Class for the totally blind.	Attend'g Certif'd Schools or Classes for the Blind	4	2	6
		Attending Public Elementary Schools.	...	...	...
		At other Institutions.	...	...	...
		At no School or Institution.	...	...	...
	(ii.) Suitable for training in a School or Class for the partially blind.	Attend'g Certif'd Schools or Classes for the Blind.	...	...	...
		Attending Public Elementary Schools.	2	2	4
		At other Institutions.	...	...	...
		At no School or Institution.	1	...	1
Deaf (including deaf and dumb and partially deaf).	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attend'g Certif'd Schools or Classes for the Deaf.	7	5	12
		Attending Public Elementary Schools.	...	...	...
		At other Institutions.	...	...	...
		At no School or Institution.	1	1	2
	(ii.) Suitable for training in a School or Class for the partially deaf.	Attend'g Certif'd Schools or Classes for the Deaf.	...	...	...
		Attending Public Elementary Schools.	3	5	8
		At other Institutions.	...	...	...
		At no School or Institution.	...	...	...
Mentally Defective.	Feebleminded. (Cases not notifiable to the Local Control Authority.)	Attend'g Certif'd Schools for Mentally Defective children.	18	15	33
		Attending Public Elementary Schools.	8	8	16
		At other Institutions.	4	...	4
		At no School or Institution.	...	1	1
	Notified to the Local Control Authority during the year.	Feebleminded.	12	3	15
		Imbeciles.	...	1	1
		Idiots.	1	...	1

TABLE III.—(Contd.).

			Boys	Girls	Total
EPILEPTICS.	Suffering from severe epilepsy.	Attend'g Certif'd Special Schools for Epileptics.	1	...	1
		In Institutions other than Certif'd Spec'l Schools.	1	...	1
		Attending Public Elementary Schools.	1	1	2
		At no School or Institution.	1	2	3
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools.	7	4	11
		At no School or Institution.	...	...	...
PHYSICALLY DEFECTIVE.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	1	...	1
		At other Institutions.	...	...	...
		At no School or Institution.	...	...	...
	Non-infectious but active pulm'nary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	1	2	3
		At Certified Residential Open-air Schools.	4	3	7
		At Certified Day Open-air Schools.	7	2	9
		At Public Elementary Schools.	27	19	46
		At other Institutions.	...	...	..
		At no School or Institution.	1	5	6
	Delicate children (*e.g.*, pre- or latent tuberculosis, malnutrition, debility, anæmia, etc.	At Certified Residential Open-air Schools.	11	7	18
		At Certified Day Open-air Schools.	57	56	113
		At Public Elementary Schools.	80	112	192
		At other Institutions.	1	...	1
		At no School or Institution.	2	4	6
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board.	7	3	10
		At Day Open Air Schools...	4	3	7
		At Public Elementary Schools.	6	6	12
		At other Institutions.	...	...	...
		At no School or Institution.	...	2	2
	Crippled children (other than those with active tuberculous disease), *e.g.*, children suffering from paralysis, etc. and including those with severe heart disease.	At Certified Hospital Schools.	7	9	16
		At Certified Residential Cripple Schools.	...	...	...
		At Certified Day Cripple Schools.	...	...	...
		At Public Elementary Schools.	50	40	90
		At other Institutions.	...	...	...
		At no School or Institution.	13	3	16

Table IV.

Return of Defects Treated during the Year ended 31st December, 1925.

Treatment Table.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group V.).

Disease or Defect. (1)	No. of Defects treated or under treatment during the year. Under the Authority's Scheme (2)	Otherwise (3)	Total (4)
Skin—			
Ringworm—Scalp	236	13	249
Ringworm—Body	84	6	90
Scabies	30	18	48
Impetigo	558	13	571
Other Skin Diseases	88	10	98
Minor Eye Defects— (External and other, but Excluding cases falling in Group II.)	283	17	300
Minor Ear Defects	357	16	373
Miscellaneous (*e.g.*, Minor Injuries, Bruises, Sores, Chilblains, etc.)	1010	75	1085
Total	2646	163	2814

TABLE IV.—(Contd.).

Group II.—DEFECTIVE VISION AND SQUINT (excluding Minor Eye Defects treated as Minor Ailments—Group I.).

Disease or Defect.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at Hospital apart from the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)	(5)
Errors of Refraction (including Squint). (Operations for Squint should be recorded separately in the body of the Report.)	817	3	8	828
Other Defect or Disease of the Eyes (excluding those recorded in Group I)...	28	...	...	28
Total	845	3	8	856

Total number of children for whom spectacles were prescribed :

(*a*) Under the Authority's Scheme 723

(*b*) Otherwise 11

Total number of children who obtained or received spectacles :

(*a*) Under the Authority's Scheme 469

(*b*) Otherwise 11

Group III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

NUMBER OF DEFECTS.				
Received Operative Treatment			Received other forms of treatment	Total Number treated
Under the Authority's Scheme, in Clinic or Hospital	By Private Practitioner or Hospital, apart from the Authority's Scheme	Total		
(1)	(2)	(3)	(4)	(5)
221	19	240	1	241

TABLE IV.—(Continued.)

Group IV.—DENTAL DEFECTS.

1. Number of children who were :—

(*a*) Inspected by the Dentist :

Aged :

Routine Age Groups	5	—	Total	5086
	6	634		
	7	641		
	8	642		
	9	735		
	10	816		
	11	801		
	12	817		
	13	—		
	14	—		
Specials				1645
Grand Total				6731

(*b*) Found to require treatment 3935

(*c*) Actually treated 2866

(*d*) Re-treated during the year as the result of periodical examination 699

2. Half-days devoted to : Treatment ... 347, Inspection ... 63 } Total ... 410

3. Attendances made by children for treatment 5036

4. Fillings : Permanent Teeth ... 628, Temporary Teeth ... 9 } Total ... 637

5. Extractions : Permanent Teeth ... 1116, Temporary Teeth ... 5825 } Total ... 6941

6. Administrations of general anæsthetics for extractions ... 2

7. Other operations : Permanent Teeth ... 498, Temporary Teeth ... 127 } Total ... 625

Group V.—Uncleanliness and Verminous Conditions.

i.	Average number of visits per school made during the year by the School Nurses	6
ii.	Total number of examinations of children in the Schools by School Nurses	21614
iii.	Number of individual children found unclean	5859
iv.	Number of children cleansed under arrangements made by the Local Education Authority	34
v.	Number of cases in which legal proceedings were taken :	
	(*a*) Under the Education Act, 1921	Nil.
	(*b*) Under School Attendance Byelaws	Nil.